SPLIT-TYPE AIR CONDITIONER

Basic : SH12BWHA
Model : AQB09JJWC/AQB12JJWC
Model Code : AQB09JJWC/AQB12JJWC
UQB09JJWC/UQB12JJWC

SERVICE Manual

AIR CONDITIONER

AQB09JJWC/AQB12JJWC

UQB09JJWC/UQB12JJWC

THE FEATURE OF PRODUCT

- **Energy Saving Function**
- **High Impressive & Elegant Design**
- **Silver Nano Pre-Filter**
- **Multi Functional Cleaning System**
  : The Chatechin filter and activated Deodorizing filter are adopted.
- **Human Touch Remote control**

For more information, Please access to our service web site(http://itself.sec.samsung.co.kr)

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1. Precautions

1-1 Installing the air conditioner

- Users should not install the air conditioner by themselves.
  Ask the dealer or authorized company to install the air conditioner except the window-type air conditioner in U.S.A and Canada.
- If you don't install the air conditioner properly, it may cause a fire, a water leakage or an electric shock.
- You must install the air conditioner according to the national wiring regulations and safety regulations.
- Install the indoor unit higher than 2.5m from the floor to avoid the injury caused by the operation of the fan.
  (except the window-type air conditioner)
- The manufacturer is not responsible for any accidents or injury caused by an incorrect installation.
- When installing the built-in type air conditioner, keep all electric cables such as the power cable and the connection cord in pipes, ducts, or cable channels to protect them from the danger of impact or any other incidents.

1-2 Power supply and circuit breaker

- If the power cord of the air conditioner is damaged, it must be replaced by the manufacturer or a qualified person in order to avoid a hazard.
- The air conditioner must be plugged into an independent circuit if applicable or connect the power cable to the auxiliary circuit breaker.
  An all pole disconnection from the power supply must be incorporated in the fixed wiring with a contact opening of >3mm.
- Do not extend an electric cord to the air conditioner.
- The air conditioner must be plugged in after you complete the installation.

1-3 During operation

- Do not repair the air conditioner at your discretion.
  It is recommended to contact a service center directly.
- Never spill any kind of liquid on the air conditioner.
  If this happens, turn off the air conditioner and contact an authorized service center.
- Do not insert anything between the airflow blades to prevent damage of the inner fan and consequent injury.
  Keep children away from the air conditioner.
- Do not place any obstacles in front of the air conditioner.
- Do not spray any kind of liquid into the indoor unit. If this happens, turn off the air conditioner and contact a service center.
- Make sure that the air conditioner is well ventilated at all times:
  Do not place a cloth or other materials over it.
- Remove the batteries if you don't use the remote control for a long time. (If applicable)
- Use the remote control within 7 meters from the indoor unit. (If applicable)

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1-4 Disposing of the unit

- Before throwing out the air conditioner, remove the batteries from the remote control.
- When you dispose of the air conditioner, consult your dealer. If pipes are removed incorrectly, refrigerant may blow out and cause air pollution. When it contacts with your skin, it can cause skin injury.
- The package of the air conditioner should be recycled or disposed of properly for environmental reasons.

1-5 Others

- Never store or load the air conditioner upside down or sideways to prevent the damage to the compressor.
- Young children or infirm persons should be always supervised when they use the air conditioner.
- Max current is measured according to IEC standard for safety.
- Current is measured according to ISO standard for energy efficiency.

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2. Product Specifications

2-1 The Feature of Product

■ **Energy saving function**
Makes a room cool with and energy saving and arises the efficiency of air conditioner.

■ **High impressive & elegant design**
With a Smart and fashionable style, the high impressive interior design allow this product to set place in anywhere.

■ **Silver Nano Pre-Filter**

■ **Multi functional cleaning system**
Multi Chatechin filter and activated Deordorizing filter are adopted.

■ **Human touch remote control**
The use of air conditioner is easier and more convenient by the human touch remote control of new design.

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2-2 Product Specifications

Item				Model	AQB09JJWC		AQB12JJWC	
					Indoor unit	Outdoor unit	Indoor unit	Outdoor unit
Performance	Type				Wall-mounted		Wall-mounted	
	Cooling(Min/Std/Max)			Btu/hr	3,100/9,000/11,900		3,100/12,000/14,300	
	Heating(Min/Std/Max)			Btu/hr	3,100/12,000/17,000		3,100/13,600/18,700	
	Dehumidifying				1.5		2	
	Air Volume	Cooling		m^3/min (H/M/L)	4.5/6.0/7.5	31.5/22/13.0	4.5/6.5/8.0	31.5/22/13.0
		Heating			5.5/7.0/8.5	31.5/22/13.0	5.5/7.5/9	31.5/22/13.0
	Noise	Cooling		dB	41/28	51	43/28	53
		Heating			41/28	51	43/28	53
	Energy Efficiency Ratio	Cooling		Btu/hr	13.85		11.43	
		Heating			12.63		12.04	
	Power			ph-V-Hz	1-208/230-60		1-208/230-60	
Power	Power Consumption	Cooling		W	230/650/1,030		230/1,050/1,450	
		Heating			220/950/1,450		220/1,130/1,750	
	Operating Current (Min/Std/Max)	Cooling		A	1.5/3.0/5.0		1.5/4.9/6.9	
		Heating			1.35/4.4/6.5		1.35/5.3/7.5	
	Power Factor	Cooling		%	91		92.5	
		Heating			92		92.5	
Size	Outer Dimension	WidthxHeightxDepth		mm	825x285x189	790x548x285	825x285x189	790x548x285
				inch	32.5x11.2x7.4	31.1x21.6x11.2	32.5x11.2x7.4	31.1x21.6x11.2
	Weight(Net)			lb	17	78	17	78
	Drain Hose			DxL(inch)	ø1.06"x21.7		ø1.06"x21.7	
	Compressor	Type			Rotary, G4C090LU2ER		Rotary, G4C090LU2ER	
		Motor	Type		Hermetic		Hermetic	
			Rated Output	W	853		853	
	Oil Type				FREOLα68ES-T		FREOLα68ES-T	
	Blower	Type			Cross-flow	Propeller	Cross-flow	Propeller
		Motor	Type		Resin/steel	Resin/steel	Resin/steel	Resin/steel
			Rated Output	W	27	50	27	50
Piping	Refrigerant Pipe		Liquid	D(inch)xL(ft)	ø1/4"(6.35mm)x24.6(7.5m)		ø1/4"(6.35mm)x24.6(7.5m)	
			Gas	D(inch)xL(ft)	ø3/8"(9.52mm)x24.6(7.5m)		ø3/8"(9.52mm)x24.6(7.5m)	
	Connection Method				Flare			
	Between		Height	ft	Max.26.2(8m)			
			Pipe Length	ft	Max.49.2(15m)			
Heat Exchanger					2ROW 14STEP		2ROW 14STEP	
Refrigerant Control Unit					Electric Expansion Valve		Electric Expansion Valve	
Freezer Oil Capacity				gal	0.084		0.084	
Refrigerant to Change(R410A)				lb	2.2		2.2	
Protection Device(OLP)					None		None	
Cooling Test Condition					Indoor Unit : DB80˚F WB66˚F Outdoor Unit : DB95˚F WB75˚F			
Heating Test Condition					Indoor Unit : DB68˚F WB59˚F Outdoor Unit : DB44.6˚F WB42.8˚F			

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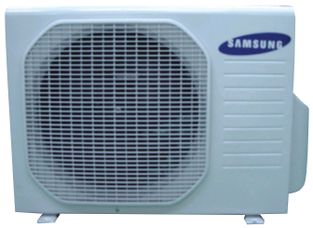
2-3 The Comparative Specifications of Product

Item		AQB12JJWC	SH12BWHA (Basic)
Design	Indoor Unit		
	Outdoor Unit		
Net Weight	Indoor Unit	17 lb	17 lb
	Outdoor Unit	78 lb	79 lb
Outer Dimension (WidthxHeightxDepth)	Indoor Unit	32.5x11.2x7.4 inch	32.5x11.2x7.4 inch
	Outdoor Unit	31.1x21.6x11.2 inch	28.4x21.6x10.4 inch
Noise	Indoor Unit	43dB↓	43dB↓
	Outdoor Unit	53dB↓	53dB↓

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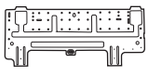
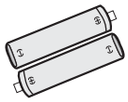
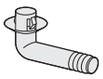
2-4 Accessory and Option Specifications

2-4-1 Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	Installation Plate	DB70-00406A	1	Indoor Unit
	Remote Control	DB93-03012K	1	
	Batteries for Remote Control	DB47-90024A	2	
	User's Manual	DB98-25865A	1	
	Installation Manual	DB98-25853A	1	
	Service Manual	DB98-26006A	1	
	Drain Plug	DB67-20011A	1	Outdoor Unit
	Rubber Leg	DB73-00179A	4	
	3-wire Power Cable	-	1	Accessory Box
	2-wire Assembly Cable	-	1	

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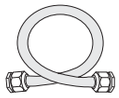
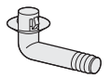
Accessories(cont.)

Item	Descriptions	Code-No.	Q'TY	Remark
	3-wire Assembly Cable	-	1	Accessory Box
	Assembly Pipe, ø1/4 inch(6.35mm)	DB96-10453B	1	
	Assembly Pipe,ø3/8 inch(9.52mm)	DB96-10453F	1	
	PE T3 Foam Tube Insulation	DB72-50165A	1	
	Vinyl Tape, Width 2 inch(50mm)	DB72-00459A	1	
	Drain Plug	DB67-20011A	1	
	Rubber Leg	DB73-00179A	4	
	Pipe Clamps A	DB39-20224A	3	
	Pipe Clamps B	DB39-20224B	3	
	Cement Nail	-	6	

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Accessories(cont.)

Item	Descriptions	Code-No.	Q'TY	Remark
	M4x16 Tapping Screws	6002-000215	10	Accessory Box
	Drain Hose, length 78.7 inch(2m)	DB62-00487A	1	
	Putty 3.28oz(100g)	DB98-10568A	1	

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3. Alignment and Adjustments

3-1 Indoor Display Error and Check Method

Description	LAMP			Main Checking Point
	OPERATION	TIMER	TURBO	
	≋	◷	TURBO	
Indoor unit room temperature sensor error (open or short)	○	◑	○	3-2P
Indoor unit heat exchanger temperature sensor error (open or short)	◑	◑	○	3-3P
Indoor fan motor malfunction	○	○	◑	3-4P
EEPROM error	◑	◑	◑	Option Setting
Option error (option wasn't set up or option data error)	◑	◑	◑	Option Setting
Outdoor unit error	◑	○	◑	Remote Control on/off Outdoor Unit Power Reset

● : Lamp on, ○ : Lamp off, ◑ : Lamp blink

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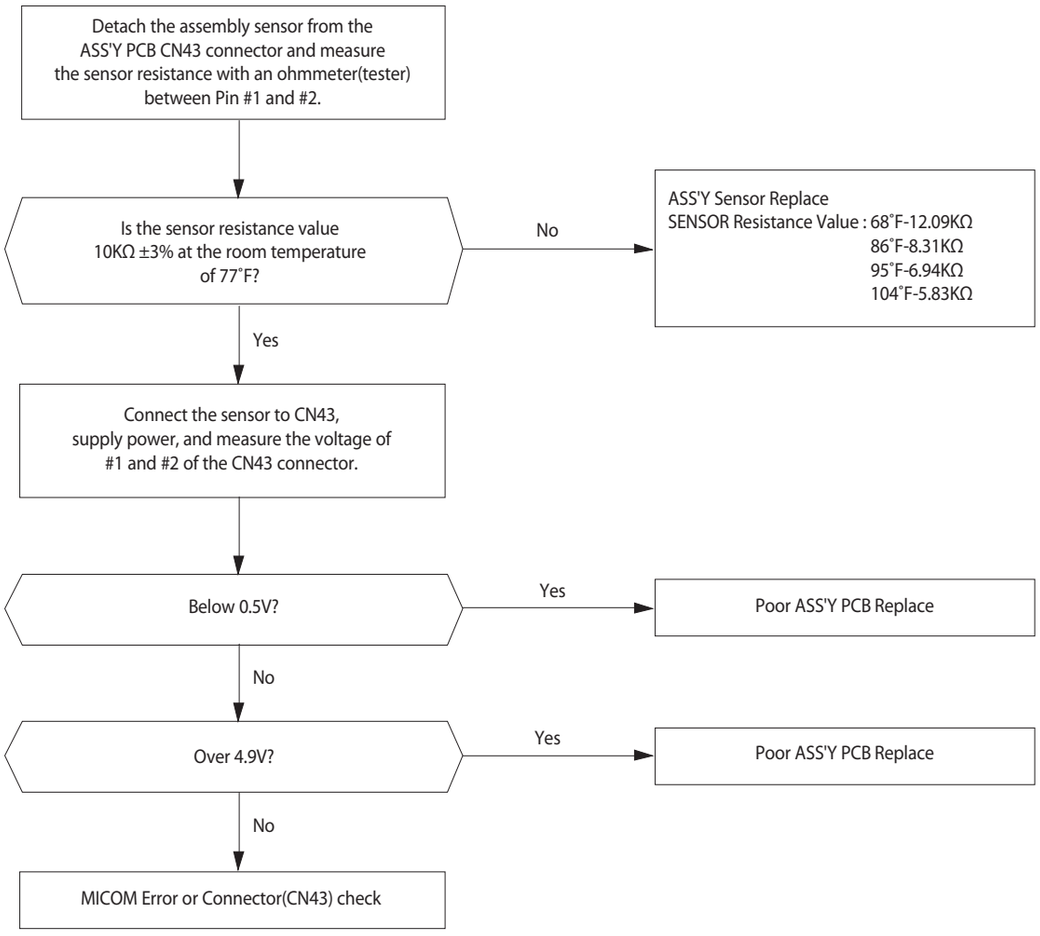
3-1-1 Indoor Unit Room Temperature Sensor Error

Description	LAMP		
	OPERATION	TIMER	TURBO
Indoor unit room temperature sensor error (open or short)	○	◑	○

● : Lamp on, ○ : Lamp off, ◑ : Lamp blink


Detach the assembly sensor from the ASS'Y PCB CN43 connector and measure the sensor resistance with an ohmmeter(tester) between Pin #1 and #2.
Is the sensor resistance value 10KΩ ±3% at the room temperature of 77˚F?
No
ASS'Y Sensor Replace
SENSOR Resistance Value : 68˚F-12.09KΩ
86˚F-8.31KΩ
95˚F-6.94KΩ
104˚F-5.83KΩ
Yes
Connect the sensor to CN43, supply power, and measure the voltage of #1 and #2 of the CN43 connector.
Below 0.5V?
Yes
Poor ASS'Y PCB Replace
No
Over 4.9V?
Yes
Poor ASS'Y PCB Replace
No
MICOM Error or Connector(CN43) check

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3-1-2 Indoor Unit Heat Exchanger Temperature Sensor Error

Description	LAMP		
	OPERATION	TIMER	TURBO
	≋	⏲	TURBO
Indoor unit heat exchanger temperature sensor error (open or short)	◑	◑	○

● : Lamp on, ○ : Lamp off, ◑ : Lamp blink

1. Check the assembly condition of the sensor connector(CN43) on the indoor unit Main PCB and if not assembled, reassemble the connector accurately.

2. Detach the room pipe sensor connector(CN43) and check the resistance between Pin #3 and #4.

Temperature(˚F)	Resistance Value(Kohm)	Temperature(˚F)	Resistance Value(Kohm)	Others
59	14.68	86	8.31	he data tolerance is ±3%.
68	12.09	95	6.94	
77	10	104	5.83	

If the above data is not met, replace the room pipe sensor.

3. Assemble the room pipe sensor to PCB, plug in, and check the voltage of connector 3 and 4. If the resistance is below 0.5V or over 4.9V, replace the indoor Main PCB. (short or disconnected in the PCB board)

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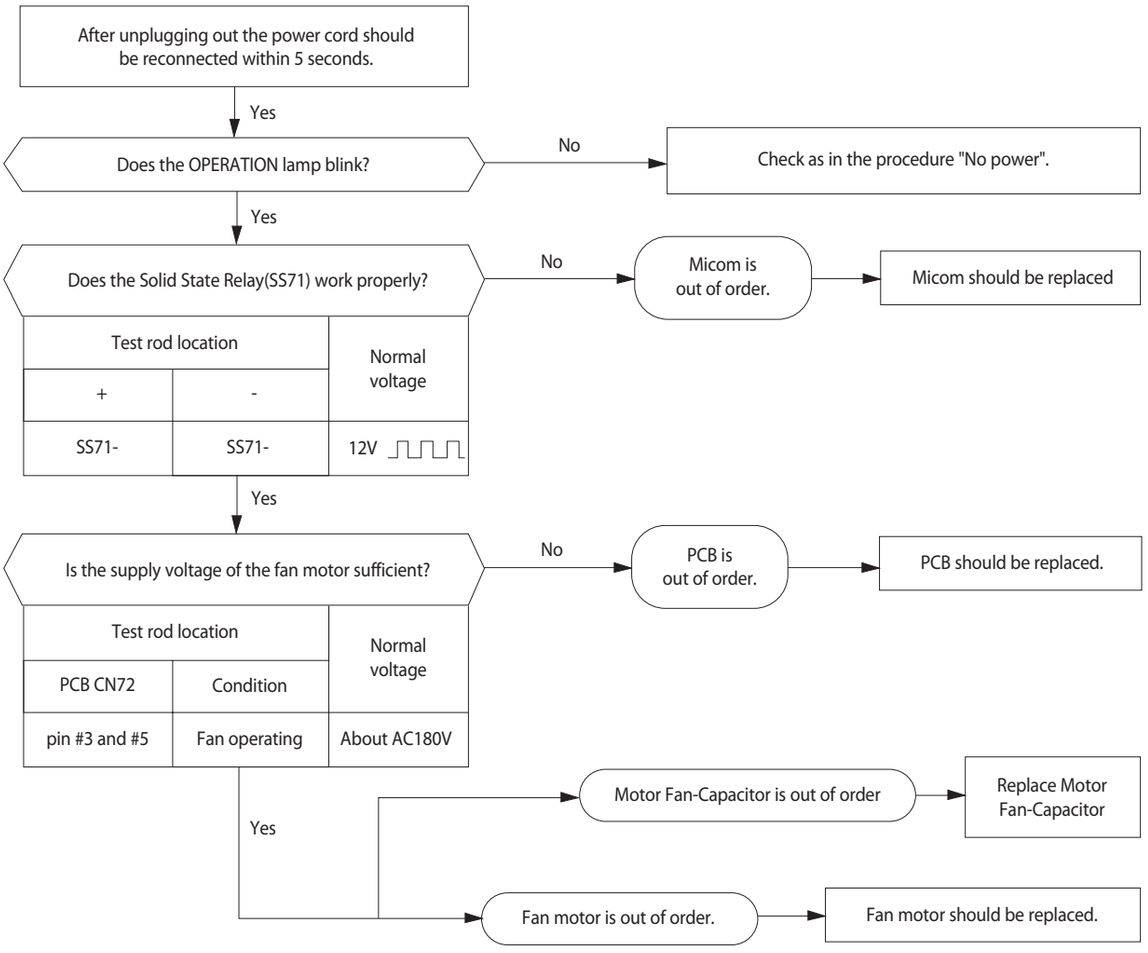
3-1-3 Indoor Unit Fan Motor Malfunction

Description	LAMP		
	OPERATION	TIMER	TURBO
	≋	◷	TURBO
Indoor unit fan motor malfunction	○	○	◑

● : Lamp on, ○ : Lamp off, ◑ : Lamp blink

1. Checklist:
   1) Is the indoor unit fan motor properly connected with the connector (CN72)?
   2) Is the AC voltage correct?
   3) Is HALL IC in indoor fan motor properly connected with the connector (CN44)?
   4) Is the running capacitor (CR71) properly connected with PCB board?

2. Troubleshooting procedure



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3-2 Outdoor LED Error Display and Check Method

No.	LED Display			Explanation	Main Checking Point
	Yellow	Green	Red		
1	○	○	○	Power off/ VDD NG	• Fuse power source
2	○	○	◎	IPM Over Current(O.C)	• Input voltage range • Installation condition • Outdoor fan motor
3	○	○	●	Abnormal Serial communication	• Communication wiring • Installation condition
	○	●	●		
4	○	◎	○	Compressor Starting error	• Compressor wire • Compressor terminal • Outdoor controller
5	○	◎	●	Normal Operation	• Operating mode
6	○	●	○	Compressor Lock error	• Compressor wire • Compressor terminal
7	○	●	◎	DC-Link voltage under/over error	• Input voltage range • DC voltage sensor
8	◎	○	◎	Outdoor temperature sensor error(Dual/Single)	• PCB pattern & sensor(Open/Short)
9	◎	○	●	Discharge over temperature(Dual/Single)	• PCB pattern & sensor(Open/Short)
10	◎	◎	○	Discharge temperature sensor error(Dual/Single)	• PCB pattern & sensor(Open/Short)
11	◎	◎	●	Current sensor error	• PCB pattern & sensor(Open/Short)
12	◎	●	○	Compressor Limit error	• EEV • Gas over charge
13	◎	●	◎	Coil temperature sensor error(Dual/Single)	• PCB pattern & sensor(Open/Short)
14	◎	●	●	1min. Time out Communication	• Communication wiring • PCB pattern(Open/Short)
15	●	○	○	Fan error	• Fan motor • Connector(CN40 or CN71)
16	●	○	◎	OTP error	• PCB pattern & part(Open/Short)
17	●	○	●	Compressor rotation error	• Compressor wire • Compressor terminal
18	●	◎	○	Operation condition secession(Dual only)	• Installation condition • Abient temperature
19	●	◎	◎	DC-Link voltage sensor error	• PCB pattern & sensor(Open/Short)
20	●	◎	●	I_Trip error / PFC Over current	• Input voltage range • PCBpattern & part(Open/Short)
21	●	●	○	GAS Leak error(Dual/Single)	• Piping condition
22	●	●	◎	AC Line Zero Cross Signal out	• Terminal block • AC zero-crossing circuit block
23	●	●	●	Power ON reset(1sec)	• PCB pattern (Open/Short)
24	◎	○	○	Capacity miss match	• Option code
25	○	◎	◎	Test Operation at Cooling Mode	• Operating mode
26	◎	◎	◎	Test Operation at Heating Mode	• Operating mode

● : LED ON, ○ : LED OFF, ◎ : LED BLINK

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3-3 Setting Option Setup Method

ex) Option No. : 66 01 57 02 2E

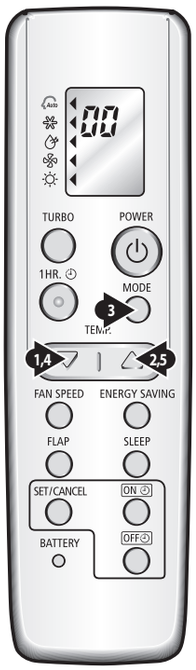
Step 1 : **Enter the Option Setup mode.**

1st Take out the batteries of remote control.

2nd Press the temperature ▽ | △ button simultaneously and insert the battery again.

3rd Make sure the remocon display shown as .

Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**



	Feature	Display
1	Setting Option SEG1. Push the ▽ button to set the display panel to 6. Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	
2	Setting Option SEG2. Push the △ button to set the display panel to 6. Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	
3	Change it into the set display of Option SEG3 and SEG4 with the MODE button.	
4	Setting Option SEG3. Push the ▽ button to set the display panel to 0. Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	
5	Setting Option SEG4. Push the △ button to set the display panel to 1. Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	

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Feature		Display
	6 Change it into the set display of Option SEG5 and SEG6 with the MODE button.	00
	7 Setting Option SEG5. Push the ▽ button to set the display panel to 5. Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	50
	8 Setting Option SEG6. Push the △ button to set the display panel to 7. Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	57
	9 Change it into the set display of Option SEG7 and SEG8 with the MODE button.	00
	10 Setting Option SEG7. Push the ▽ button to set the display panel to 0. Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	00
	11 Setting Option SEG8. Push the △ button to set the display panel to 2. Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	02
	12 Change it into the set display of Option SEG9 and SEG10 with the MODE button.	00
	13 Setting Option SEG9. Push the ▽ button to set the display panel to 2. Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	20
	14 Setting Option SEG10. Push the △ button to set the display panel to E. Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ … 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.	2E

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Step 3 : Upon completion of the selection, check you made right selections.

Whenever you press the Mode button, the set Option will be displayed.

Step 4 : Pressing the ON/OFF button ( )

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding" is heard and the OPERATION LED lamp is flickering at the same time, then the input of option is completed. (If the "ding" sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.

Second, Re-insert the battery into the remote control.

Third, Press ON/OFF ( ) key with the direction of remote control for set.

• Error Mode

1st If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

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■ OPTION ITEMS

REMOCON / MODEL	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10
AQB09JJWC	8	c	7	7	7	7	5	2	4	9
AQB12JJWC	9	c	7	7	7	7	5	2	5	9

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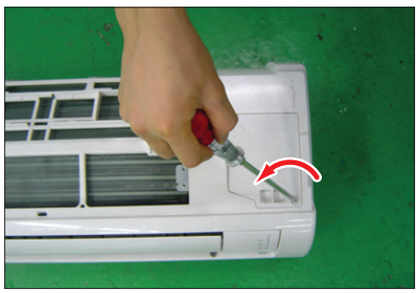
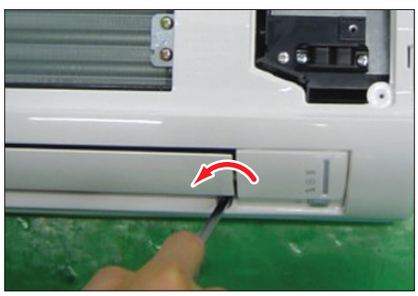
4. Disassembly and Reassembly

Stop operation of the air conditioner and remove the power cord before repairing the unit.

4-1 Indoor Unit

No	Parts	Procedure	Remark
1	Front Grille	1) Stop the air conditioner operation and shut off the main power.	
		2) Open the Front Grille by pulling right and left sides of the hook.	
		3) Loosen 1 of the right screw(CCW) and detach the Terminal Cover. 4) Detach the thermistor from the Front Grille.	
		5) Loosen 3 fixing screws(CCW) of Front Grille.	

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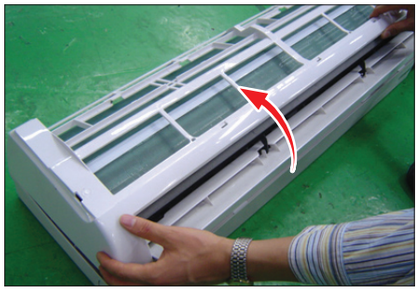
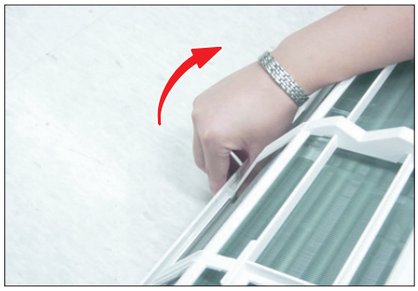
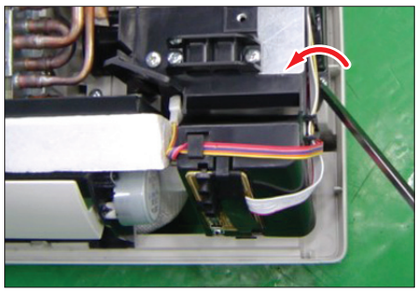
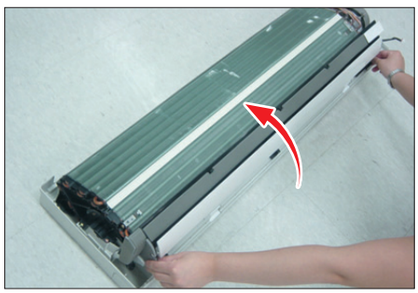
No	Parts	Procedure	Remark
		6) Unlock 3 hooks to fix Panel Front and Tray Drain.	
		7) Unlock 3 hooks to fix Panel Front and Back-Body.	
2	Control-In (Main PCB)	1) Take all the connector of PCB upper side out. (Inclusion Power Cord) 2) Detach the outdoor unit connection wire from the Terminal Block. 3) Loosen 4 fixing screws(CCW) of Ass'y Control-In.	
3	Tray Drain	1) Pull Tray Drain out from the Back Body.	

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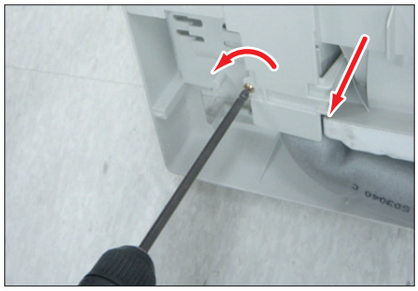
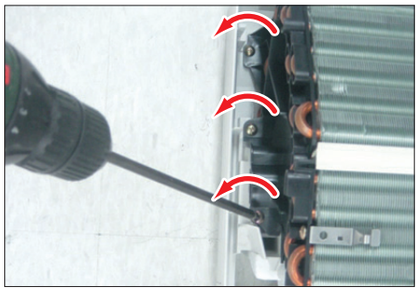
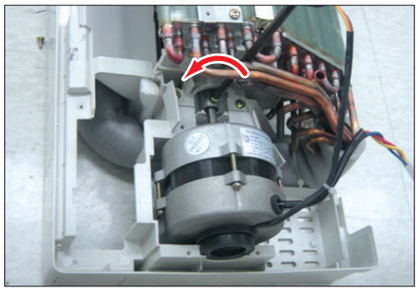
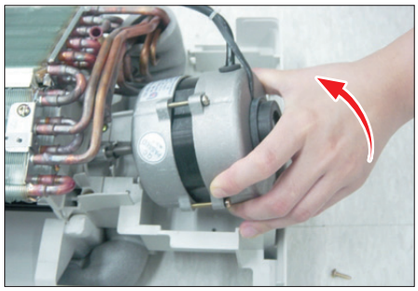
No	Parts	Procedure	Remark
4	Heat Exchanger	1) Loosen 2 fixing earth screws(CCW) of right side. 2) Detach the Connection Pipe. 3) Detach the Holder Pipe at the rear side.	
		4) Loosen the 4 fixing screws(CCW) of right and left side. 5) Lifting the Heat Exchanger up a little to push the up side for separation from the indoor unit.	
5	Fan Motor & Cross Fan	1) Loosen the fixing screw(CCW). 2) Detach the Fan Motor from the Fan. 3) Detach the Fan From the left Holder Bearing.	
			

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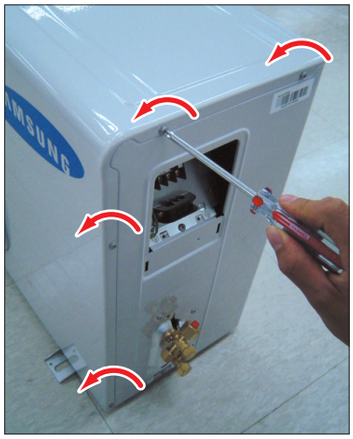
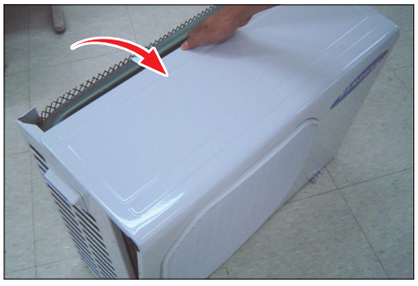
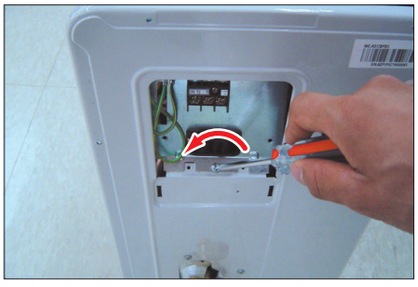
4-2 Outdoor Unit

No	Parts	Procedure	Remark
1	Common Work	1) Loosen 1 fixing screw(CCW) of the Cover-Side.	
		2) Loosen each 4 screws(CCW) on both right and left Cabinet Side edges and a fixing screw on the Cabinet Front lower to detach the Cabinet Front.	
		3) Detach the Cabinet Front like the picture on the right side.	
		4) Loosen 1 screw(CCW) fixed to assemble Plate Control Out with Cabinet-Side RH.	

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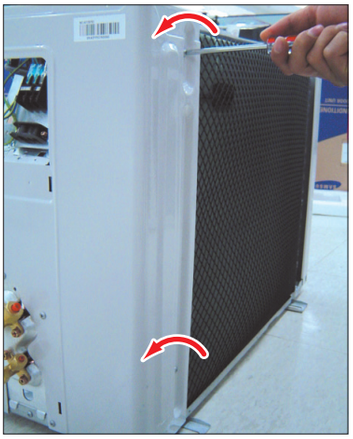
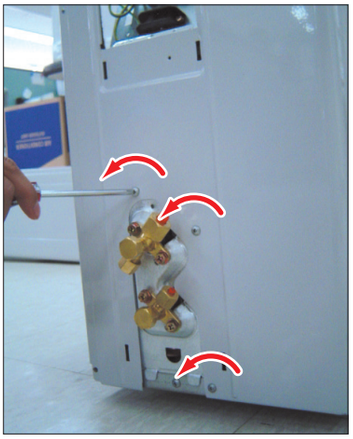
No	Parts	Procedure	Remark
		5) Loosen 2 fixing screws(CCW) on the rear side of Cabinet-Side RH.	
		6) Loosen 3 screws(CCW) fixed to assemble Bracket Valve with Cabinet-Side RH.	
		7) Loosen 2 fixing screws(CCW) of Cabinet Side LF.	

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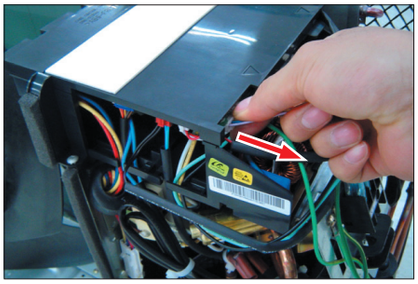
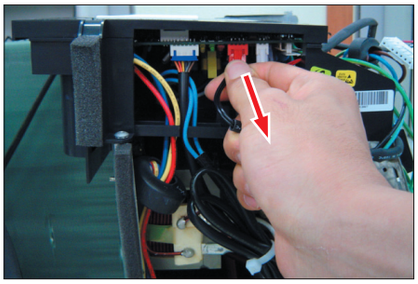
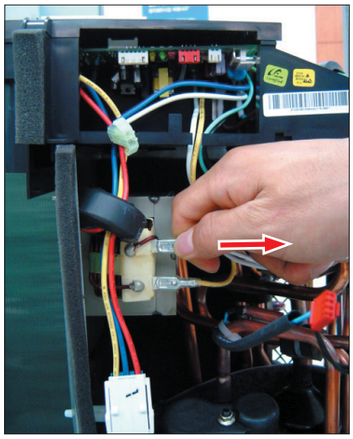
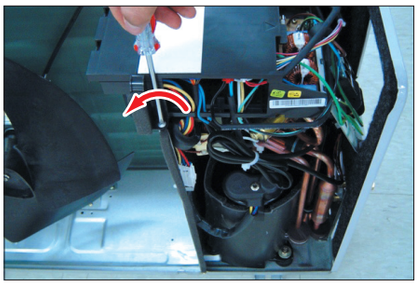
No	Parts	Procedure	Remark
2	Ass'y Control Out	1) Detach the Motor Wire from the PCB of Ass'y Control Out.	
		2) Detach several connectors from the PCB of Ass'y Control Out.	
		3) Detach 2 Connect Wires from Reactor.	
		4) Loosen 1 screw(CCW) fixed to assemble Ass'y Control Out with Partition.	

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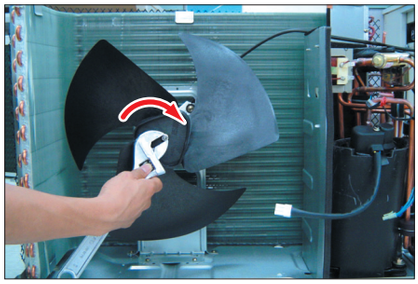
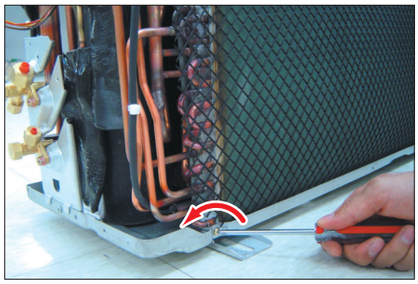
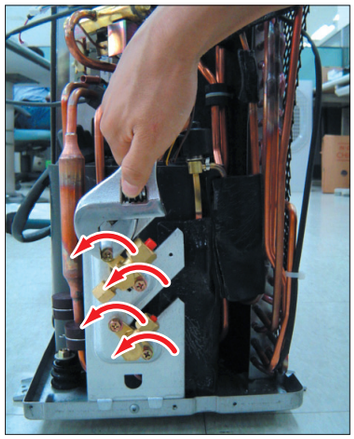
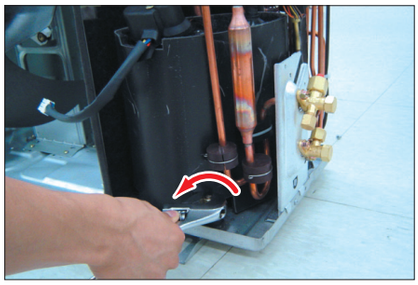
No	Parts	Procedure	Remark
3	Fan & Motor	1) Release the refrigerant at first. 2) Loosen fixing screw(CW). 3) Disassemble the pipes in both inlet and outlet with welding torch. 4) Detach the Heat Exchanger.	
4	Heat Exchanger	1) Loosen 2 fixing screws(CCW) on both sides. 2) Disassemble the pipes in both inlet and outlet with welding torch. 3) Detach the Heat Exchanger.	
5	Ass'y Valve 4-Way & Ass'y Valve EEV	1) Loosen 4 bolts(CCW) fixed to assemble Valve Service with Bracket Valve like the picture on the right side. 2) Disassemble the pipes assembled the suction and discharge sides of the Compressor with welding torch.	
6	Compressor	1) Loosen the Nut(CCW) of Terminal Cover. 2) Detach the Terminal Cover and detach the Connect Comp Wire from Compressor. 3) Disassemble the Felt Comp Sound. 4) Loosen the 3 bolts(CCW) at the bottom of Compressor like the picture on the right side.	

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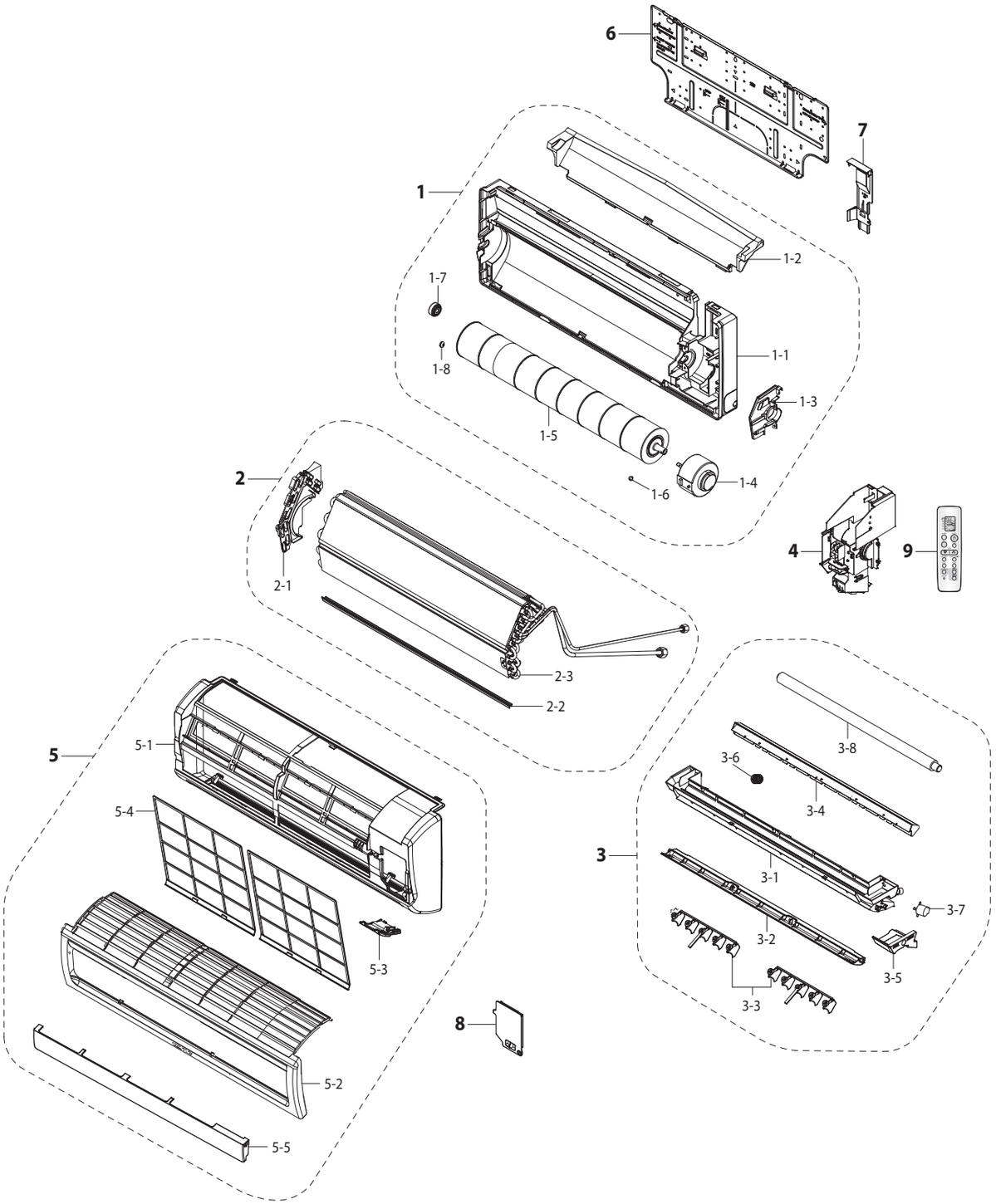
5. Exploded Views and Parts List

5-1 Indoor Unit



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■ Parts List

No.	Code No.	Description	Specification	Q'TY		SA/SNA
				AQB09JJWC	AQB12JJWC	
1	DB94-00454B	ASS'Y-BACK BODY	ASS'Y	1	1	**SA**
1-1	DB61-01632A	BACK-BODY	HIPS	1	1	SNA
1-2	DB69-00834A	CUSHION-BACK BODY	EPS	1	1	**SA**
1-3	DB61-01634A	SUPPORTER-EVAP RH	HIPS	1	1	SNA
1-4	DB31-00219A	MOTOR-IN	YDK-016S1408-01	1	1	**SA**
1-5	DB94-00456A	ASS'Y-CROSS FAN	OD92x635	1	1	**SA**
1-6	DB97-02075A	ASS'Y-BOLT SPECIAL	ASS'Y	1	1	SNA
1-7	DB73-00181A	RUBBER-BEARING	RUBBER	1	1	SNA
1-8	DB94-40007A	MOLD-BEARING	BEARING	1	1	**SA**
2	DB96-03112A	ASS'Y CYCLE IN	ASS'Y	1	1	SNA
2-1	DB63-00850A	COVER-BEARING	ABS	1	1	SNA
2-2	DB60-00118A	SPACE-EVAP LOW	PVC	1	1	SNA
2-3	DB96-03060E	ASS'Y-EVAP	1.3S,2x14	1	1	**SA**
3	DB94-00457D	ASS'Y-TRAY DRAIN	ASS'Y	1	1	**SA**
3-1	DB63-00848A	TRAY-DRAIN	ABS	1	1	SNA
3-2	DB61-01635A	BLADE-H	HIPS	1	1	**SA**
3-3	DB61-01636A	BLADE-V	PP	2	2	**SA**
3-4	DB63-00849A	TRAY-STABILIZER	ABS	1	1	SNA
3-5	DB69-00839A	CUSHION EPS-TRAY-RH	EPS30	1	1	**SA**
3-6	DB73-00180A	RUBBER-CAP DRAIN	GUM-EPM	1	1	SNA
3-7	DB95-20138A	ASS'Y-MOTOR STEPPING	PM24-600g,24BYJ48	1	1	**SA**
3-8	DB94-00458B	ASS'Y DRAIN-HOSE	ASS'Y	1	1	**SA**
4	DB93-04025A	ASS'Y CONTROL-IN	ASS'Y	1	1	**SA**
5	DB92-00686M	ASS'Y PANEL FRONT	ASS'Y	1	1	**SA**
5-1	DB64-00989A	PANEL FRONT	PS	1	1	**SA**
5-2	DB64-01295A	GRILLE PANEL D	HIPS	1	1	**SA**
5-3	DB97-02064A	ASS'Y COVER-DISPLAY	ASS'Y	1	1	**SA**
5-4	DB63-00846B	GUARD-AIR FILTER	PP	2	2	**SA**
5-5	DB64-01294A	GRILLE D	HIPS,PH88	1	1	**SA**
6	DB70-00406A	PLATE-HANGER	SGCC-M	1	1	SNA
7	DB61-01638A	HOLDER-PIPE	PS	1	1	SNA
8	DB63-00844C	COVER TERMINAL	ABS	1	1	**SA**
9	DB93-03012K	ASS'Y REMOCON	ARH-1402	1	1	**SA**

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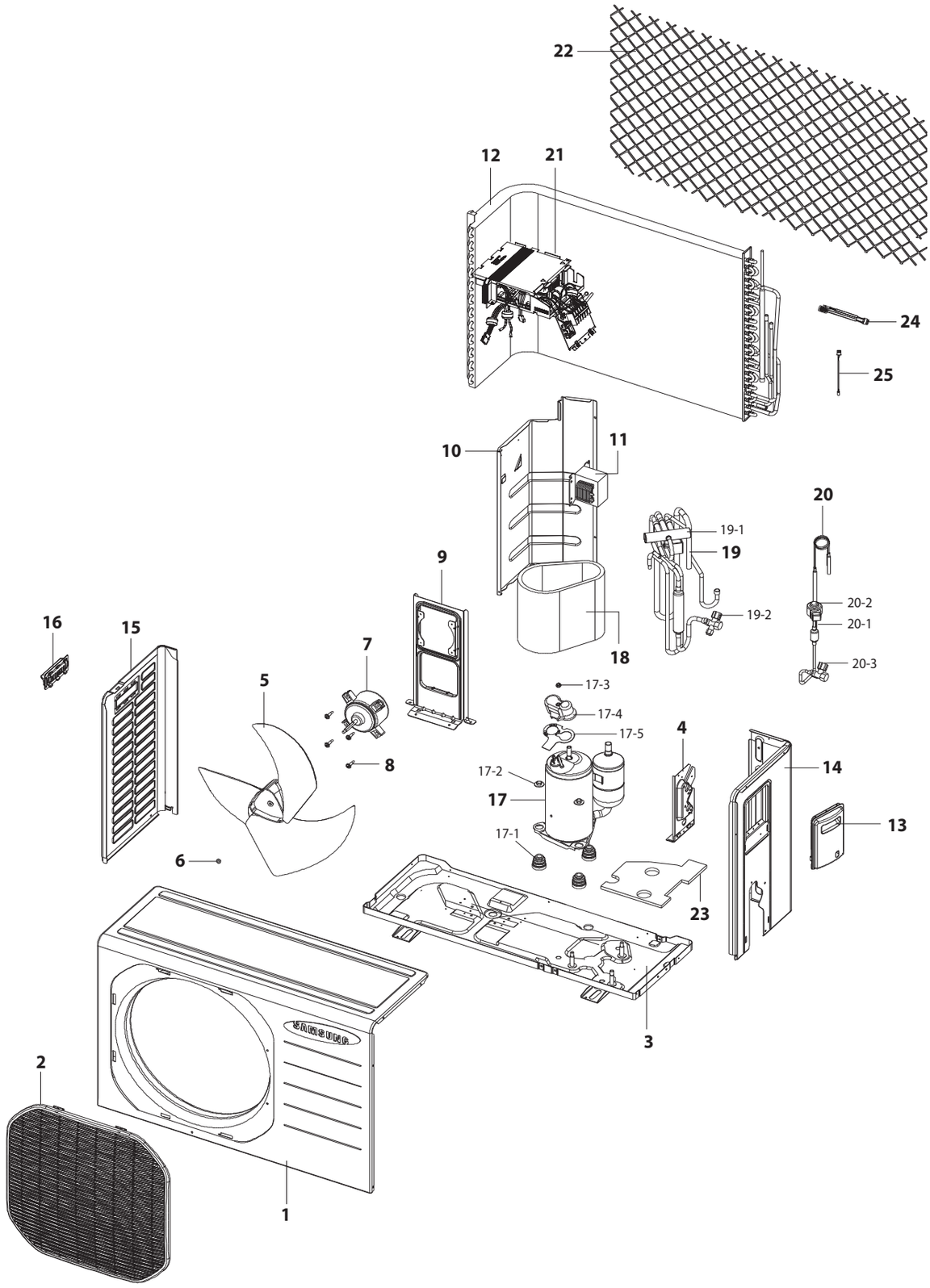
5-2 Outdoor Unit



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■ Parts List

No.	Code No.	Description	Specification	Q'TY		SA/SNA
				UQB09JJWC	UQB12JJWC	
1	DB90-01524E	ASS'Y CABI FRONT	ASS'Y, SC-90073T	1	1	SA
2	DB63-00847B	GUARD FAN	PP HB,UL746C,SC-90073R	1	1	SA
3	DB90-01295G	ASS'Y BASE OUT	ASS'Y, GALVANIZED STEEL	1	1	SA
4	DB61-02066A	BRACKET VALVE	GALVANIZED STEEL	1	1	SA
5	DB67-50063A	FAN-PROPELLER	AS+G/F20%,ø450	1	1	SA
6	6021-000281	NUT-HEXAGON	M6,CW	1	1	SA
7	DB31-00238C	MOTOR FAN OUT	DC Motor,SIC-52FV-F726-3	1	1	SA
8	DB60-00150A	SCREW SPECIAL MOTOR	M4,SWCH18AK	4	4	SA
9	DB61-02065A	BRACKET MOTOR	SGCC-M	1	1	SA
10	DB94-00863A	ASS'Y PARTITION	ASS'Y,SGCC-M	1	1	SA
11	DB81-00534A	REACTOR	PPS,5mH	1	1	SA
12	DB96-04480B	ASS'Y COND UNIT	ASS'Y	1	1	SA
13	DB90-02626A	ASS'Y COVER CONTROL	ASS'Y ABS 5V,SC-90073R	1	1	SA
14	DB90-02513A	ASS'Y CABINET SIDE RH	ASS'Y,SC-90073T	1	1	SA
15	DB64-00982A	CABINET SIDE LF	SECC-P,SC-90073T	1	1	SA
16	DB64-00992A	HANDLE LF	PP,SC-90073R	1	1	SA
17	G4C090LU2ER	COMPRESSOR	ROTARY,BLDC	1	1	SA
17-1	DB73-00070A	GROMMET ISOLATOR	NR	3	3	SA
17-2	DB60-30028A	SCREW MACHINE	M8	3	3	SA
17-3	DB60-30018A	NUT-FLANGE	M5	1	1	SA
17-4	DB63-10165D	COVER TERMINAL	PBT (G/F 15%)	1	1	SA
17-5	DB63-20003A	GASKET	EPDM	1	1	SA
18	DB63-01435A	FELT COMP SOUND	FELT+EVAR	1	1	SA
19	DB99-00726B	ASS'Y VALVE 4WAY	ASS'Y	1	1	SA
19-1	DB62-02338A	4WAY VALVE	R410A,SANHUA	1	1	SNA
19-2	DB62-02284A	VALVE SERVICE	R410A,SANHUA,3/8"	1	1	SNA
20	DB99-00727A	ASS'Y VALVE EEV	ASS'Y	1	1	SA
20-1	DB62-03916A	VALVE EXPANSION BODY	FUJIKOKI,ø1.4	1	1	SNA
20-2	DB62-03964A	VALVE EXPANSION COIL	FUJIKOKI	1	1	SNA
20-3	DB62-02283A	VALVE SERVICE	R410A,SANHUA,1/4"	1	1	SNA
21	DB93-03453D	ASS'Y CONTROL OUT	ASS'Y	-	1	SA
	DB93-03453E	ASS'Y CONTROL OUT	ASS'Y	1	-	SA
22	DB61-01861A	GUIDE SCREEN	P.E.H 100%	1	1	SA
23	DB63-01479A	FELT COMP BASE	FELT	1	1	SA
24	DB32-00083K	THERMISTOR OUT/DIS	ASS'Y	1	1	SA
25	DB32-00081D	THERMISTOR COND	ASS'Y	1	1	SA

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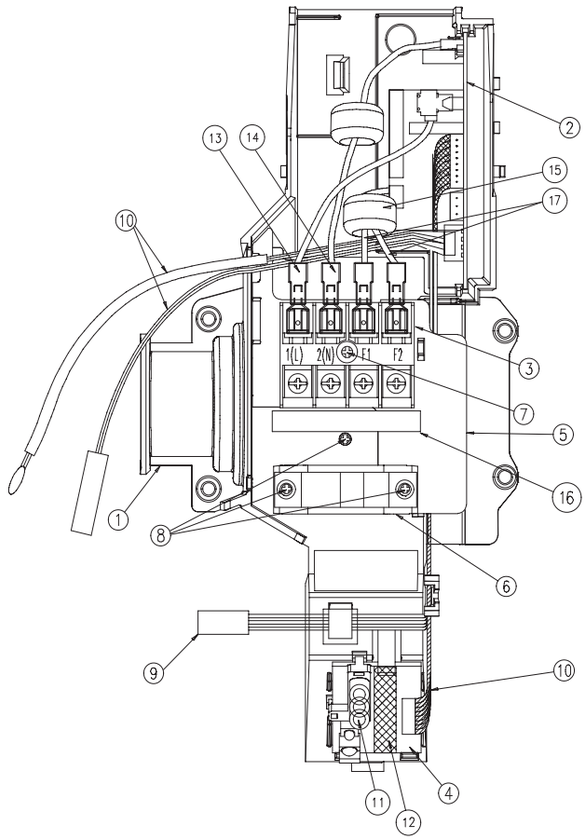
5-3 Ass'y Control In : DB93-04025A



■ **Parts List**

No.	Code No.	Description	Specification	Q'TY	SA/SNA
1	DB61-01637C	CASE-CONTROL IN	ABS(V5)	1	SNA
2	DB93-03663C	ASS'Y-MAIN PCB	ASS'Y	1	**SA**
3	DB65-00004U	TERMINAL BLOCK	DAF-4P	1	SNA
4	DB93-03117A	ASS'Y-S/W & DISPLAY PCB	ASS'Y	1	SNA
5	DB61-01639A	PLATE-TERMINAL LOW	SGCC-M,T1.2	1	SNA
6	DB61-00171A	HOLDER-WIRE CLAMP	ABS	1	**SA**
7	6001-000929	SCREW-MACHINE	PH M3xL22	1	SNA
8	6002-000470	SCREW-MACHINE	TH M4xL10	3	SNA
9	DB39-00147A	C/W STEP MOTOR UP/DOWN	ASS'Y	1	SNA
10	DB32-00020D	ASS'Y-THERMISTOR	4P(103AT)	1	**SA**
11	DB63-00851A	COVER LAMP	ABS(V0)	1	SNA
12	DB73-00242B	RUBBER-BAND	RUBBER	1	SNA
13	DB39-00765T	CONNECT WIRE-L	BRN	1	SNA
14	DB39-01193A	CONNECT WIRE-N	SKYBLU,3P	1	SNA
15	DB39-01210B	CONNECT WIRE-COMM	RED/BLU	1	SNA
16	DB68-01975A	LABLE CAUTION	TETRON25	1	SNA
17	DB39-01213A	C/W DISPLAY PCB	ASS'Y	1	SNA

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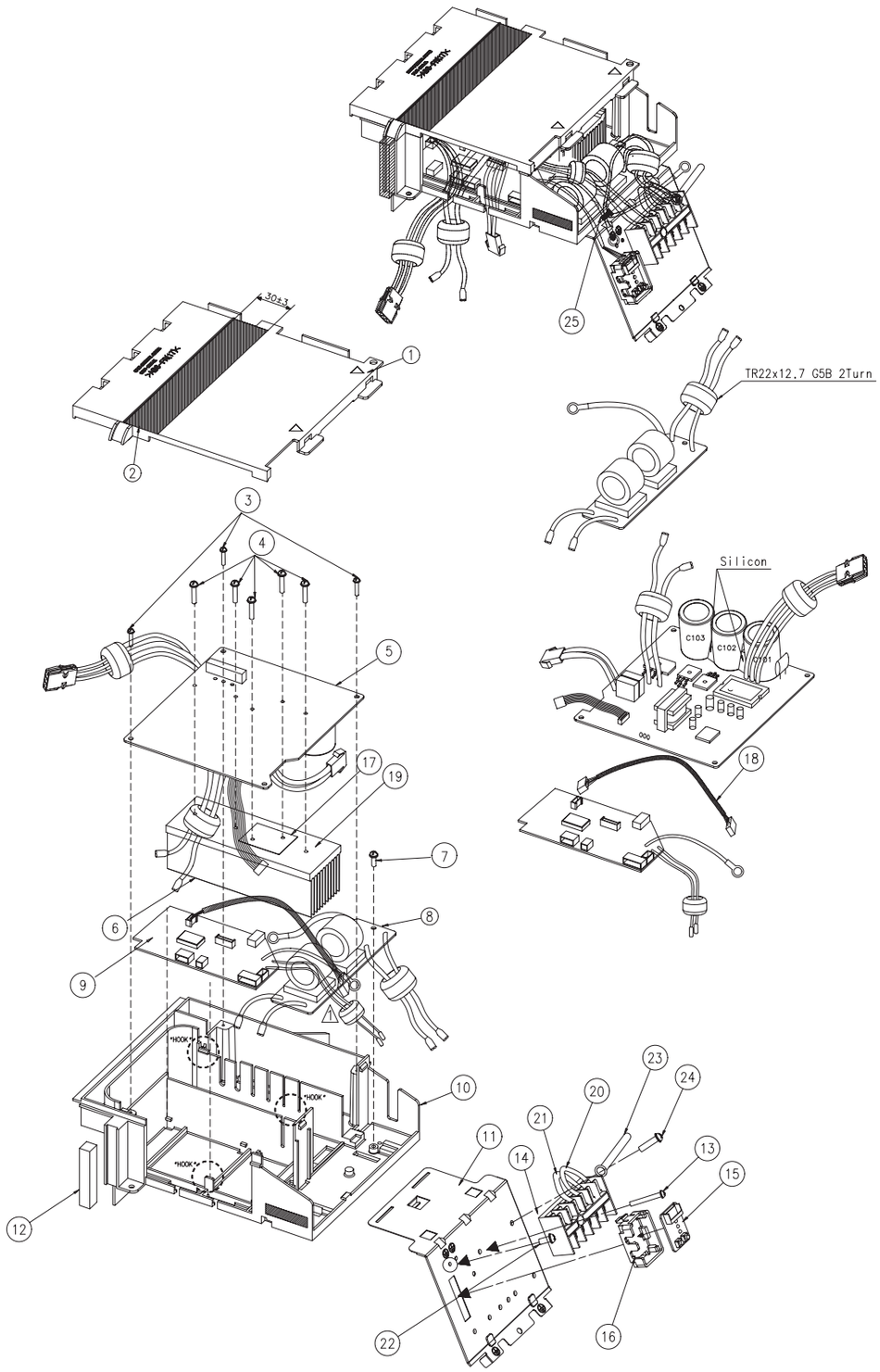
5-4 Ass'y Control Out

■ **UQB09JJWC : DB93-03453E**
UQB12JJWC : DB93-03453D



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■ Parts List

No.	Code No.	Description	Specification	Q'TY		SA/SNA	Remark
				UQB09JJWC	UQB12JJWC		
1	DB61-02514B	CASE CONTROL COVER	ABS V0,T2.0	1	1	**SA**	
2	DB62-02541Z	SEAL CASE CONTROL COVER	FOAM LEX T2(WHITE)	1	1	**SA**	
3	6002-000630	SCREW TAPPING	M3xL8 PH+ ZPC(YEL)	3	3	SNA	
4	DB91-00306A	ASS'Y SCREW-MACHINE	M3x16 WSP PH+	5	5	SNA	
5	DB93-03454D	ASS'Y PCB INV	FR4 160x140	1	-	**SA**	
	DB93-03454C	ASS'Y PCB INV	FR4 160x140	-	1	**SA**	
6	DB62-03155A	HEAT SINK	140x50x45mm, 11FIN	1	1	**SA**	
7	6002-000536	SCREW TAPPING	PH,+,2S,M4,L10	1	1	SNA	
8	DB93-02968B	ASS'Y PCB EMI	FR-1 139x40	1	1	**SA**	
9	DB93-03470B	ASS' PCB MAIN	FR4 125x67	1	1	**SA**	
10	DB61-02513B	CASE CONTROL BASE	ABS V0,T2.0	1	1	**SA**	
11	DB61-02535A	PLATE CONTROL OUT	SGCC-M T0.6	1	1	**SA**	
12	DB62-02332P	SEAL CASE CONTROL BASE	FOAM PU(BLACK)	1	1	SNA	
13	6002-000555	SCREW TAPPING	M4xL25 PH+ ZPC(YEL)	1	1	SNA	
14	DB65-00179C	TERMINAL BLOCK	DAF-6P	1	1	**SA**	
15	DB93-03662A	ASS'Y PCB DISPLAY	FR-1 35x25	1	1	**SA**	
16	DB61-02543A	CASE DISPLAY PCB	ABS V0,T2.0	1	1	**SA**	
17	DB81-00547B	INSULATOR	MICA	1	1	SNA	
18	DB39-01198A	C/W-DISP(5P)	-	1	1	**SA**	
19	DB98-24813A	ASS'Y-THERMAL GREASE	2g	1	1	SNA	
20	DB39-00604W	LEAD CONNECTOR-N	SKYBLU	1	1	SNA	
21	DB39-00604X	LEAD CONNECTOR-L	BRN	1	1	SNA	
22	6009-001001	SCREW SPECIAL	SCREW EARTH	1	1	SNA	
26	DB61-00206A	HOLDER WIRE CLAMP	SGCC-M,T0.5	1	1	SNA	
24	6002-001149	SCREW TAPPING	M4x10 2S PH+	1	1	SNA	
2	DB65-10088D	CABLE TIE	NYLON66	1	1	SNA	

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6. Electrical Parts List

■ INDOOR MAIN PCB : DB93-03663C

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
AC_L	3712-001139	CONNECTOR-TERMINAL	TAB,MALE,-,6.35x0.8mm	1	SNA	
ASS'Y PCB SUB	DB93-04001A	ASS'Y PCB SUB-485	SH24BP2,485 COMM.	1	SNA	
BD71	0402-001298	DIODE-BRIDGE	DF06S,600V,1A,SMD-4,TP	1	SNA	
BZ61	3002-001129	BUZZER-PIEZO	85DB,-,-,2KHz,-	1	SNA	
C101	2401-003895	C-AL	15uF,20%,450V,GP,TP,12.5x20mm,5	1	SNA	
C102	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C103	2401-000151	C-AL	1000uF,20%,25V,GP,TP,10x20,5	1	SNA	
C104	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,1608	1	SNA	
C105	2401-000037	C-AL	470uF,20%,16V,GP,TP,8x11.5,5	1	SNA	
C106	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,1608	1	SNA	
C107	2201-000987	C-CERAMIC,DISC	2.2nF,20%,400V,Y5U,BK,12.5x6mm,10	1	SNA	
C108	2201-000987	C-CERAMIC,DISC	2.2nF,20%,400V,Y5U,BK,12.5x6mm,10	1	SNA	
C109	2201-002193	C-CERAMIC,DISC	0.082nF,±10%,3000V,SL,-,8.5x3,5	1	SNA	
C201	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C202	2203-000257	C-CER,CHIP	10nF,10%,50V,X7R,1608	1	SNA	
C203	2203-000257	C-CER,CHIP	10nF,10%,50V,X7R,1608	1	SNA	
C302	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C303	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C304	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C305	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C306	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C307	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C316	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,1608	1	SNA	
C401	2203-000440	C-CER,CHIP	1nF,10%,50V,X7R,1608	1	SNA	
C402	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,1608	1	SNA	
C403	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,1608	1	SNA	
C404	2203-000257	C-CER,CHIP	10nF,10%,50V,X7R,1608	1	SNA	
C405	2203-000440	C-CER,CHIP	1nF,10%,50V,X7R,1608	1	SNA	
C406	2203-000440	C-CER,CHIP	1nF,10%,50V,X7R,1608	1	SNA	
C501	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,1608	1	SNA	
C502	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C503	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C504	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C505	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C506	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C507	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C508	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	

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■ INDOOR MAIN PCB : DB93-03663C(cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
C509	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C510	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C601	2401-002300	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA	
C901	2203-005249	C-CER,CHIP	100nF,10%,50V,X7R,1608	1	SNA	
CD11	0406-001086	DIODE-TVS	ST02D-200,185/200/215V,200W,DO-214	1	SNA	
CD312	0406-001204	DIODE-TVS	SMBJ5.0CA,6.4/-/7.07V,600W,SMB	1	SNA	
CN11	3711-006040	HEADER-BOARD TO BOARD	NOWALL,10P,2R,2.54mm,ANGLE,AU,BLK	1	SNA	
CN12	3711-003847	HEADER-BOARD TO CABLE	BOX,12P,1R,2mm,ANGLE,SN	1	SNA	
CN22	DB39-01194A	CONNECT WIRE-15P	AS24(18)BPB,#1007 26 AWG,-,15,140,WHT,#26, SmH200-12 WHT,YBH200-12 WHT,-,230V/50H	1	SNA	
CN31	3711-000056	HEADER-BOARD TO CABLE	BOX,2P,1R,2.5mm,ANGLE,SN,WHT	1	SNA	
CN43	3711-004379	HEADER-BOARD TO CABLE	BOX,4P,1R,2mm,STRAIGHT,SN,NTR	1	SNA	
CN44	3711-000879	HEADER-BOARD TO CABLE	BOX,3P,1R,2.5mm,STRAIGHT,SN,BLU	1	SNA	
CN61	3711-004484	HEADER-BOARD TO CABLE	BOX,5P,1R,2mm,STRAIGHT,SN,NTR	1	SNA	
CN71	3711-003404	HEADER-BOARD TO CABLE	1WALL,2P,1R,7.92mm,STRAIGHT,SN,BLU	1	SNA	
CN72	3711-000262	HEADER-BOARD TO CABLE	1WALL,3P,1R,7.92mm,STRAIGHT,SN,WHT	1	SNA	
CN92	3711-004236	HEADER-BOARD TO CABLE	BOX,6P,1R,2mm,STRAIGHT,SN	1	SNA	
CN93	3711-003942	HEADER-BOARD TO CABLE	BOX,2P,1R,2mm,STRAIGHT,SN,WHT	1	SNA	
CR71	2301-001251	C-FILM,LEAD-PPF	1.2uF,10%,450Vac,BK,38x18x30,3	1	SNA	
D101	0402-001427	DIODE-RECTIFIER	ES1D,200V,1A,DO-214AC,TP	1	SNA	
D701	0402-000012	DIODE-RECTIFIER	UF4007,1KV,1A,DO-41,TP	1	SNA	
F701	3602-001012	FUSE-BLOCK	500V,-,100m	1	SNA	
F701-1	3601-000263	FUSE-CARTRIDGE	250V,3.15A,TIME-LAG,GLASS,5x20mm	1	SNA	
F702	3601-001209	FUSE-RADIAL LEAD	250V,1A,TIME-LAG,-,8.5x8mm	1	SNA	
FT71	DB27-00020A	COIL CHOKE	SSU10V-1500S,Interior SLIM,15.0mH,+50~-30%,-,2ohm, 1.5A,-,80±5 Turns,17x19x22,4	1	SNA	
IC01	1203-002545	IC-PWM CONTROLLER	266,DIP,8P,300MIL,PLASTIC,-0.3/700V,-,-40TO+150C,560mA,-,ST	1	SNA	
IC02	1203-000429	IC-POSI.FIXED REG.	78L05A,TO-92,3P,-,PLASTIC,4.6	1	SNA	
IC04	DB09-00462A	IC MICOM	MB90F823,-,80 P,5 V,24 MHz,STM-0581-OA,24,16,QFP,QFP, 14x20 mm,16,-40~85	1	SNA	
IC05	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	
IC06	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	
IC07	1003-001462	IC-SOURCE DRIVER	TD62783AFW,SOL,18P,-,8,-500mA,TP,PLASTIC,50V, -40TO85C,1.47,50V,-	1	SNA	
IC08	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	
IC09	1103-001175	IC-EEPROM	93LC56,128x16,SOP,8P,5x4mm,2.5/6.0V,-40to+85C	1	SNA	
IC18	1006-001312	IC-BUS TRANSCEIVER	1487,SO,8P,4.9x3.8 mm,SINGLE,ST,PLASTIC,5V,-, -40to+85CC,520mW,1,-,1,1.5/5.25V,-	1	SNA	

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■ INDOOR MAIN PCB : DB93-03663C(cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
IC20	0801-000393	IC-CMOS LOGIC	74HC86,OR GATE,SOP,14P,150MIL,QUAD,ST,-,2.0/6.0V, 0.26V,-40to+85C,180mW,4.2V,1uA	1	SNA	
IC31	0604-001003	PHOTO-COUPLER	TR,50-150%,200mW,DIP-4,ST	1	SNA	
IC59	1203-003334	IC-RESET	S-801,SOT-23,5P,2.9x1.6mm,PLASTIC,3.716/4.284V,256mW, -,2.5mA,-,TP	1	SNA	
NTC1	1404-001274	THERMISTOR-NTC	22ohm,1.4A,3100K,9.5mW/C,-,7.0,-	1	SNA	
PC01	0604-001038	PHOTO-COUPLER	TR,130-260%,200mW,DIP-4,ST	1	SNA	
PC02	0604-001003	PHOTO-COUPLER	TR,50-150%,200mW,DIP-4,ST	1	SNA	
PCB	DB41-00407A	PCB-INDOOR	AS12(09)HPBN,-,2,00,1.6T,-,HB,2,-,LOW TEMP	1	SNA	
PCB	DB41-00476A	PCB SUB-485COMM	SH24BP2,FR-4,2,01,1.6T,25X40,P,9,-,-	1	SNA	
Q101	0504-001064	TR-DIGITAL	DTC114EKA,NPN,200mW,10K/10K,SOT-23,TP	1	SNA	
Q201	0501-000534	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,180-390	1	SNA	
Q401	0501-000534	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,180-390	1	SNA	
Q601	0501-000534	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,180-390	1	SNA	
Q602	0501-002296	TR-SMALL SIGNAL	MMST2907A,PNP,200mW,SMT3,TP,100-300	1	SNA	
Q603	0501-000534	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,180-390	1	SNA	
R101	2007-000290	R-CHIP	100ohm,5%,1/8W,TP,2012	1	SNA	
R102	2007-000493	R-CHIP	2.2Kohm,5%,1/8W,TP,2012	1	SNA	
R103	2002-001104	R-COMPOSITION	12Mohm,5%,1/2W,AA,TP,3.4x9mm	1	SNA	
R104	2002-001104	R-COMPOSITION	12Mohm,5%,1/2W,AA,TP,3.4x9mm	1	SNA	
R105	2007-000931	R-CHIP	470ohm,5%,1/8W,TP,2012	1	SNA	
R201	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R201	2007-000084	R-CHIP	4.7Kohm,5%,1/10W,TP,1608	1	SNA	
R202	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R202	2007-000084	R-CHIP	4.7Kohm,5%,1/10W,TP,1608	1	SNA	
R203	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R203	2007-000084	R-CHIP	4.7Kohm,5%,1/10W,TP,1608	1	SNA	
R204	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R204	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R205	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R205	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R206	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R206	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R207	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R208	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R209	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R210	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R211	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	

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■ INDOOR MAIN PCB : DB93-03663C(cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
R301	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R302	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	1	SNA	
R303	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	1	SNA	
R304	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	1	SNA	
R305	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	1	SNA	
R309	2007-000656	R-CHIP	27Kohm,5%,1/4W,TP,3216	1	SNA	
R310	2007-000656	R-CHIP	27Kohm,5%,1/4W,TP,3216	1	SNA	
R311	2007-000656	R-CHIP	27Kohm,5%,1/4W,TP,3216	1	SNA	
R312	2007-000656	R-CHIP	27Kohm,5%,1/4W,TP,3216	1	SNA	
R315	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R350	2007-000468	R-CHIP	1Kohm,5%,1/8W,TP,2012	1	SNA	
R401	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R402	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R403	2007-000087	R-CHIP	6.8Kohm,5%,1/10W,TP,1608	1	SNA	
R404	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R405	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R406	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R407	2007-001068	R-CHIP	6.8Kohm,1%,1/10W,TP,1608	1	SNA	
R408	2007-001068	R-CHIP	6.8Kohm,1%,1/10W,TP,1608	1	SNA	
R409	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R410	2007-000109	R-CHIP	1Mohm,5%,1/10W,TP,1608	1	SNA	
R501	2007-000109	R-CHIP	1Mohm,5%,1/10W,TP,1608	1	SNA	
R502	2007-000093	R-CHIP	20Kohm,5%,1/10W,TP,1608	1	SNA	
R503	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R504	2007-000962	R-CHIP	5.1Kohm,1%,1/10W,TP,1608	1	SNA	
R602	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R604	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R605	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R606	2007-000084	R-CHIP	4.7Kohm,5%,1/10W,TP,1608	1	SNA	
R607	2007-000077	R-CHIP	470ohm,5%,1/10W,TP,1608	1	SNA	
R608	2007-000077	R-CHIP	470ohm,5%,1/10W,TP,1608	1	SNA	
R609	2007-000119	R-CHIP	560ohm,5%,1/10W,TP,1608	1	SNA	
R610	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R611	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R908	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R909	2007-000084	R-CHIP	4.7Kohm,5%,1/10W,TP,1608	1	SNA	
RY01	3501-001248	RELAY-MINIATURE	12V,-,11.7mA,DPDT,4mS,4mS	1	SNA	
SS71	3502-000115	SSR	12Vdc,-,2A,1mS,1mS	1	SNA	

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■ INDOOR MAIN PCB : DB93-03663C(cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
ST11	DB26-00015A	TRANS SWITCHING	-,JT1916-09,-,310V,FERRITE,-,EI1916,130KHz,-,1.65mH, -,-,-,-,SHIELD	1	SNA	
SW01	3407-000121	SWITCH-DIP	24V,300mA,SLIDE,STANDARD	1	SNA	
VA71	1405-000154	VARISTOR	460Vdc,2500A,17.5x7.5mm,TP	1	SNA	
XC71	2301-001220	C-FILM,LEAD-PPF	100nF,10%,275V,BK,18x6x12,15	1	SNA	
XC72	2301-001220	C-FILM,LEAD-PPF	100nF,10%,275V,BK,18x6x12,15	1	SNA	
XTAL51	2802-001179	RESONATOR-CERAMIC	4MHz,0.5%,BK,8x3x5.5mm	1	SNA	
ZD11	0403-000252	DIODE-ZENER	BZX84C3V6,3.4-3.8V,350mW,SOT-23,TP	1	SNA	
ZD12	0403-001285	DIODE-ZENER	BZX84-C11,10.4-11.6V,350mW,SOT-23,TP	1	SNA	
ZD13	0403-000466	DIODE-ZENER	BZX84C4V3,4.3,225mW,SOT-23,TP	1	SNA	

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■ OUTDOOR MAIN PCB : DB93-03454D(UQB09JJWC), DB93-03454C(UQB12JJWC)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
AC_L	3712-001139	CONNECTOR-TERMINAL	TAB,MALE,-,6.35x0.8mm	1	SNA	
AC_N	3712-001139	CONNECTOR-TERMINAL	TAB,MALE,-,6.35x0.8mm	1	SNA	
BD01	DB98-16586A	ASS'Y-DIODE	-,-	1	SNA	
C001	2301-000141	C-FILM,LEAD-PEF	10nF,10%,630V,TP,16x11x7.5mm,5	1	SNA	
C101	DB98-21655A	ASS'Y-CAP	KFR-35(25)GW,KMH400VS470	1	SNA	
C102	DB98-21655A	ASS'Y-CAP	KFR-35(25)GW,KMH400VS470	1	SNA	
C103	DB98-21655A	ASS'Y-CAP	KFR-35(25)GW,KMH400VS470	1	SNA	
C112	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C113	2203-005261	C-CER,CHIP	1000nF,10%,25V,X7R,3216	1	SNA	
C401	2203-006325	C-CER,CHIP	1.2nF,5%,25V,SL,TP,1608	1	SNA	
C402	2203-002041	C-CER,CHIP	0.47nF,10%,50V,X7R,1608	1	SNA	
C403	2203-006325	C-CER,CHIP	1.2nF,5%,25V,SL,TP,1608	1	SNA	
C404	2203-002041	C-CER,CHIP	0.47nF,10%,50V,X7R,1608	1	SNA	
C405	2203-006325	C-CER,CHIP	1.2nF,5%,25V,SL,TP,1608	1	SNA	
C406	2203-002041	C-CER,CHIP	0.47nF,10%,50V,X7R,1608	1	SNA	
C407	2203-002041	C-CER,CHIP	0.47nF,10%,50V,X7R,1608	1	SNA	
C408	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C409	2401-002300	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA	
C410	2401-002300	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA	
C411	2401-002300	C-AL	47uF,20%,50V,GP,TP,6.3x11,5	1	SNA	
C412	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C413	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C414	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C415	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C416	2401-002598	C-AL	220uF,20%,50V,GP,TP,10x16,5	1	SNA	
C417	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C418	2306-000123	C-FILM,LEAD-PPF	100nF,5%,630V,BK,26x16.5x8.5,2	1	SNA	
C419	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C501	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C503	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C506	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C507	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C508	2401-001552	C-AL	47uF,20%,35V,GP,TP,6.3x11,2.5	1	SNA	
C509	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C517	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C520	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C522	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C523	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	

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■ OUTDOOR MAIN PCB : DB93-03454D(UQB09JJWC), DB93-03454C(UQB12JJWC)(cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
C524	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C525	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C526	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C702	2401-003036	C-AL	100uF,20%,16V,GP,TP,5X11mm,5mm	1	SNA	
C900	2203-006104	C-CER,CHIP	1000nF,10%,50V,X7R,3225	1	SNA	
C901	2201-000322	C-CERAMIC,DISC	2.2nF,10%,2kV,Y5P,TP,13x5mm,10	1	SNA	
C902	2401-000480	C-AL	10uF,20%,50V,GP,TP,5x11,5	1	SNA	
C905	2401-002598	C-AL	220uF,20%,50V,GP,TP,10x16,5	1	SNA	
C906	2203-001562	C-CER,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
C907	2203-001562	C-CER,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
CN01	3711-005654	HEADER-BOARD TO CABLE	1WALL,7P,1R,3.96mm,ANGLE,SN,WHT	1	SNA	
CN55	3711-003873	HEADER-BOARD TO CABLE	BOX,7P,1R,2mm,STRAIGHT,SN	1	SNA	
D101	DB98-16591A	ASS'Y-DIODE RECTIFIER	-,-,-,-

■ OUTDOOR MAIN PCB : DB93-03454D(UQB09JJWC), DB93-03454C(UQB12JJWC)(cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
R407	2007-000781	R-CHIP	33ohm,5%,1/8W,TP,2012	1	SNA	
R408	2007-000781	R-CHIP	33ohm,5%,1/8W,TP,2012	1	SNA	
R409	2007-000781	R-CHIP	33ohm,5%,1/8W,TP,2012	1	SNA	
R415	2007-000084	R-CHIP	4.7Kohm,5%,1/10W,TP,1608	1	SNA	
R418	2006-001013	R-CEMENT	0.02ohm,5%,7W,CA,BK,35x9.5x9.5mm	1	SNA	
R419	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R420	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R421	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R422	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R423	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R424	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R425	2007-000074	R-CHIP	100ohm,5%,1/10W,TP,1608	1	SNA	
R462	2007-000986	R-CHIP	5.6ohm,5%,1/8W,TP,2012	1	SNA	
R463	2007-000986	R-CHIP	5.6ohm,5%,1/8W,TP,2012	1	SNA	
R464	2007-000986	R-CHIP	5.6ohm,5%,1/8W,TP,2012	1	SNA	
R509	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R510	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R515	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R516	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R517	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R536	2007-000109	R-CHIP	1Mohm,5%,1/10W,TP,1608	1	SNA	
R537	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R538	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R539	2007-000493	R-CHIP	2.2Kohm,5%,1/8W,TP,2012	1	SNA	
R540	2007-000493	R-CHIP	2.2Kohm,5%,1/8W,TP,2012	1	SNA	
R541	2007-000493	R-CHIP	2.2Kohm,5%,1/8W,TP,2012	1	SNA	
R542	2007-000964	R-CHIP	5.1Kohm,5%,1/8W,TP,2012	1	SNA	
R543	2007-000078	R-CHIP	1Kohm,5%,1/10W,TP,1608	1	SNA	
R901	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	1	SNA	
R902	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	1	SNA	
R906	2007-001071	R-CHIP	6.8Kohm,5%,1/8W,TP,2012	1	SNA	
R908	2007-000300	R-CHIP	10Kohm,5%,1/8W,TP,2012	1	SNA	
RY501	3501-001154	RELAY-MINIATURE	12Vdc,200mW,3000mA,1FormA,10mS,10mS	1	SNA	
RY503	3501-001169	RELAY-POWER	12Vdc,0.9W,20000mA,SPST,20mS,10mS	1	SNA	
WIRE-4WAY	DB39-00649E	CONNECT WIRE	AS18BPBX,-,-,-,-,-,#18,MG620023,-,-,230V/50Hz,-,-, #1015 18 AWG,-,4way valve	1	SNA	
WIRE-COMP	DB39-00608H	CONNECT WIRE-COMP	SH12BPB,#1015 16 AWG,AWG,3,290/280/270, red/blue/yellow,16,MG620877,-,-,250V,-,29	1	SNA	

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■ OUTDOOR MAIN PCB : DB93-03454D(UQB09JJWC), DB93-03454C(UQB12JJWC)(cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
WIRE-PCB	DB39-01194B	CONNECT WIRE	AS12(09)BPB,#1007 26 AWG,-,7P,150,WHT,-, SMH200-07 WHT,YBH200-07WHT,BK,230V/50Hz	1	SNA	
WIRE-REACTOR	DB39-00998F	CBF LEAD WIRE	-,AS12(09)BPBX,-,200,260,-,600V,AWG#16, WHIT & YEL,-,-,CORE TR29G5A	1	SNA	
XTAL01	2802-001179	RESONATOR-CERAMIC	4MHz,0.5%,BK,8x3x5.5mm	1	SNA	
ZD23	0403-000282	DIODE-ZENER	MMBZ5232B,5%,225mW,SOT-23,TP	1	SNA	

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■ OUTDOOR SUB PCB : DB93-03470B

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
C310	2201-000154	C-CERAMIC,DISC	10nF,+80-20%,2kV,Y5P,TP,20x5mm,7.5	1	SNA	
C311	2201-000154	C-CERAMIC,DISC	10nF,+80-20%,2kV,Y5P,TP,20x5mm,7.5	1	SNA	
C312	2201-000154	C-CERAMIC,DISC	10nF,+80-20%,2kV,Y5P,TP,20x5mm,7.5	1	SNA	
C313	2201-000154	C-CERAMIC,DISC	10nF,+80-20%,2kV,Y5P,TP,20x5mm,7.5	1	SNA	
C505	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C510	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C511	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C512	2401-000287	C-AL	100uF,20%,16V,WT,TP,6.3x11,5	1	SA	
C513	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C514	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C515	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C516	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C517	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C518	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C519	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C520	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C521	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C527	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C529	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C530	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C531	2203-000189	C-CER,CHIP	100nF,+80-20%,25V,Y5V,1608	1	SNA	
C600	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C601	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C620	2203-000192	C-CER,CHIP	100nF,+80-20%,50V,Y5V,2012	1	SNA	
C901	2203-001562	C-CER,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
C902	2203-001562	C-CER,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
C903	2203-001562	C-CER,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	1	SNA	
CN01	3711-000024	HEADER-BOARD TO CABLE	BOX,3P,1R,2.5mm,STRAIGHT,SN,WHT	1	SNA	
CN03	3711-003873	HEADER-BOARD TO CABLE	BOX,7P,1R,2mm,STRAIGHT,SN	1	SNA	
CN30	DB98-24921A	ASSY-HOOK WHT	UH035EAV,SMAW250A-06 WHT	1	SNA	
CN50	DB98-22299A	HEADER-BOARD TO CABLE	INVERTER,SMAW250A-04,WHT	1	SNA	
CN51	DB98-22298A	ASSY-HOOK RED	INVERTER,SMAW250A-O4 RED	1	SNA	
CN61	3711-004484	HEADER-BOARD TO CABLE	BOX,5P,1R,2mm,STRAIGHT,SN	1	SNA	
IC50	DB09-00373A	IC MICOM	MB90F823,-,80 P,5 V,24 MHz,STM-0493-OA,-,24, 16,QFP,QFP,14x20mm,16,-40~85	1	SNA	
IC54	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	
IC55	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	
IC56	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	

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■ OUTDOOR SUB PCB : DB93-03470B(cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
IC57	0506-000175	TR-ARRAY	2003,NPN,7,1W,SOP-16,ST,1000	1	SNA	
IC59	1203-003334	IC-RESET	S-801,SOT-23,5P,2.9x1.6mm,PLASTIC,3.716/4.284V,256mW,-,2.5mA,-,TP	1	SNA	
PCB	DB41-00415A	PCB SUB-MAIN	BAC-INV,FR4,2,485,1.6T,80x50,-,-,-,MICOM+485	1	SNA	
Q901	0504-000001	TR-DIGITAL	DTA114EKA,PNP,200mW,10K/10K,SOT-23,TP	1	SNA	
Q902	0504-000001	TR-DIGITAL	DTA114EKA,PNP,200mW,10K/10K,SOT-23,TP	1	SNA	
Q903	0504-000001	TR-DIGITAL	DTA114EKA,PNP,200mW,10K/10K,SOT-23,TP	1	SNA	
Q904	0504-000001	TR-DIGITAL	DTA114EKA,PNP,200mW,10K/10K,SOT-23,TP	1	SNA	
R308	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R310	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R312	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R314	2007-000944	R-CHIP	47Kohm,5%,1/4W,TP,3216	1	SNA	
R414	2007-000455	R-CHIP	18Kohm,1%,1/10W,TP,1608	1	SNA	
R499	2007-000455	R-CHIP	18Kohm,1%,1/10W,TP,1608	1	SNA	
R500	2007-000455	R-CHIP	18Kohm,1%,1/10W,TP,1608	1	SNA	
R501	2007-000455	R-CHIP	18Kohm,1%,1/10W,TP,1608	1	SNA	
R502	2007-000614	R-CHIP	24Kohm,1%,1/10W,TP,1608	1	SNA	
R503	2007-000614	R-CHIP	24Kohm,1%,1/10W,TP,1608	1	SNA	
R504	2007-000455	R-CHIP	18Kohm,1%,1/10W,TP,1608	1	SNA	
R505	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R506	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R507	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R508	2007-000076	R-CHIP	330ohm,5%,1/10W,TP,1608	1	SNA	
R509	2007-000763	R-CHIP	330ohm,1%,1/10W,TP,1608	1	SNA	
R510	2007-000763	R-CHIP	330ohm,1%,1/10W,TP,1608	1	SNA	
R511	2007-000964	R-CHIP	5.1Kohm,5%,1/8W,TP,2012	1	SNA	
R512	2007-000468	R-CHIP	1Kohm,5%,1/8W,TP,2012	1	SNA	
R513	2007-000455	R-CHIP	18Kohm,1%,1/10W,TP,1608	1	SNA	
R514	2007-000763	R-CHIP	330ohm,1%,1/10W,TP,1608	1	SNA	
R515	2007-000763	R-CHIP	330ohm,1%,1/10W,TP,1608	1	SNA	
R555	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R556	2007-000109	R-CHIP	1Mohm,5%,1/10W,TP,1608	1	SNA	
R557	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R560	2007-000090	R-CHIP	10Kohm,5%,1/10W,TP,1608	1	SNA	
R901	2007-001318	R-CHIP	1Kohm,5%,1/4W,TP,3216	1	SNA	
R902	2007-001318	R-CHIP	1Kohm,5%,1/4W,TP,3216	1	SNA	
R903	2007-001318	R-CHIP	1Kohm,5%,1/4W,TP,3216	1	SNA	
R904	2007-001318	R-CHIP	1Kohm,5%,1/4W,TP,3216	1	SNA	
R905	2007-001318	R-CHIP	1Kohm,5%,1/4W,TP,3216	1	SNA	

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■ OUTDOOR SUB PCB : DB93-03470B(cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
R906	2007-001318	R-CHIP	1Kohm,5%,1/4W,TP,3216	1	SNA	
R907	2007-001318	R-CHIP	1Kohm,5%,1/4W,TP,3216	1	SNA	
R908	2007-001177	R-CHIP	8.2Kohm,5%,1/8W,TP,2012	1	SNA	
R909	2007-001177	R-CHIP	8.2Kohm,5%,1/8W,TP,2012	1	SNA	
R910	2007-001177	R-CHIP	8.2Kohm,5%,1/8W,TP,2012	1	SNA	
R911	2007-000964	R-CHIP	5.1Kohm,5%,1/8W,TP,2012	1	SNA	
R912	2007-000964	R-CHIP	5.1Kohm,5%,1/8W,TP,2012	1	SNA	
R913	2007-000964	R-CHIP	5.1Kohm,5%,1/8W,TP,2012	1	SNA	
WIRE-COMM 485	DB39-01017F	CONNECT WIRE-COMM	KH035EAV,UL1015,AWG #22,2,180,RED/BLUE,22, 179974-1,-,TP,230V/50Hz,3.96mm,180,AWG	1	SNA	
WIRE-EARTH	DB39-00514F	CBF LEAD WIRE-EARTH	-,KFR-35(25)GW/GPI,-,200,-,-,-,GRN/YEL,-,-,-	1	SNA	
XTAL51	2802-001179	RESONATOR-CERAMIC	4MHz,0.5%,BK,8x3x5.5mm	1	SNA	

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■ OUTDOOR DISPLAY PCB : DB93-03662A

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
R906	2007-001318	R-CHIP	1Kohm,5%,1/4W,TP,3216	1	SNA	
D901	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,TP	1	SNA	
D902	0401-000005	DIODE-SWITCHING	1N4148,75V,150mA,DO-35,TP	1	SNA	
LED91	0601-000402	LED	ROUND,YEL,3mm,585nm,-	1	SNA	
LED92	0601-000552	LED	ROUND,GRN,3mm,570nm	1	SNA	
LED93	0601-001373	LED	ROUND,RED,3mm,630nm	1	SNA	
K1	3404-000165	SWITCH-TACT	12V,50mA,160gf,6x6mm,SPST	1	SNA	
K2	3404-000165	SWITCH-TACT	12V,50mA,160gf,6x6mm,SPST	1	SNA	
CN953	3711-004068	HEADER-BOARD TO CABLE	BOX,5P,1R,2mm,ANGLE,SN,WHT	1	SNA	
PCB	DB41-00447A	PCB DISPLAY	AS24BPB,FR-1,1,00,1.6T,45,Q,15,-,-	1	SNA	

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■ EMI PCB : DB93-02968B

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
R906	2007-001318	R-CHIP	1Kohm,5%,1/4W,TP,3216	1	SNA	
C001	DB98-23253A	C-CERAMIC,DISC	KFR-35GW/GPI,4.7nF,2kV	1	SNA	
C002	DB98-23253A	C-CERAMIC,DISC	KFR-35GW/GPI,4.7nF,2kV	1	SNA	
C003	2301-001285	C-FILM,LEAD-PPF	680nF,10%,275V,BK,31x11x21mm,27.5	1	SNA	
C004	2301-001285	C-FILM,LEAD-PPF	680nF,10%,275V,BK,31x11x21mm,27.5	1	SNA	
C010	DB98-23253A	C-CERAMIC,DISC	KFR-35GW/GPI,4.7nF,2kV	1	SNA	
C011	DB98-23253A	C-CERAMIC,DISC	KFR-35GW/GPI,4.7nF,2kV	1	SNA	
DSA	DB47-00016A	POSISTOR	DSA-332mA,2pF MAX,100Mohm,ASM-3500	1	SNA	
F001	3602-001038	FUSE-CLIP	250V,30A,10mohm	1	SNA	
FT00	DB98-17990A	ASSY-EMI FILTER	LS615044,SH12BWH	1	SNA	
FT01	DB98-17990A	ASSY-EMI FILTER	LS615044,SH12BWH	1	SNA	
FUSE	3601-001159	FUSE	250V,20A,SLOW-BLOW,CERAMIC	1	SNA	
VA04	1405-000154	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA	
VA07	1405-000154	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA	
VA08	1405-000154	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA	
VA09	1405-000154	VARISTOR	560V,2500A,17.5x7.5mm,TP	1	SNA	
C/W POWER	DB39-00998C	WIRE-POWER	UL1015 AWG #16	1	SNA	
L/W AC_L	DB39-00961T	WIRE-AC_L	UL1015 AWG #16, BRN	1	SNA	
L/W AC_N	DB39-00961U	WIRE-AC_N	UL1015 AWG #16, SKYBLU	1	SNA	
L/W EARTH	DB39-00514F	WIRE_EARTH	UL1015 AWG #16, GRN/YEL 280mm	1	SNA	

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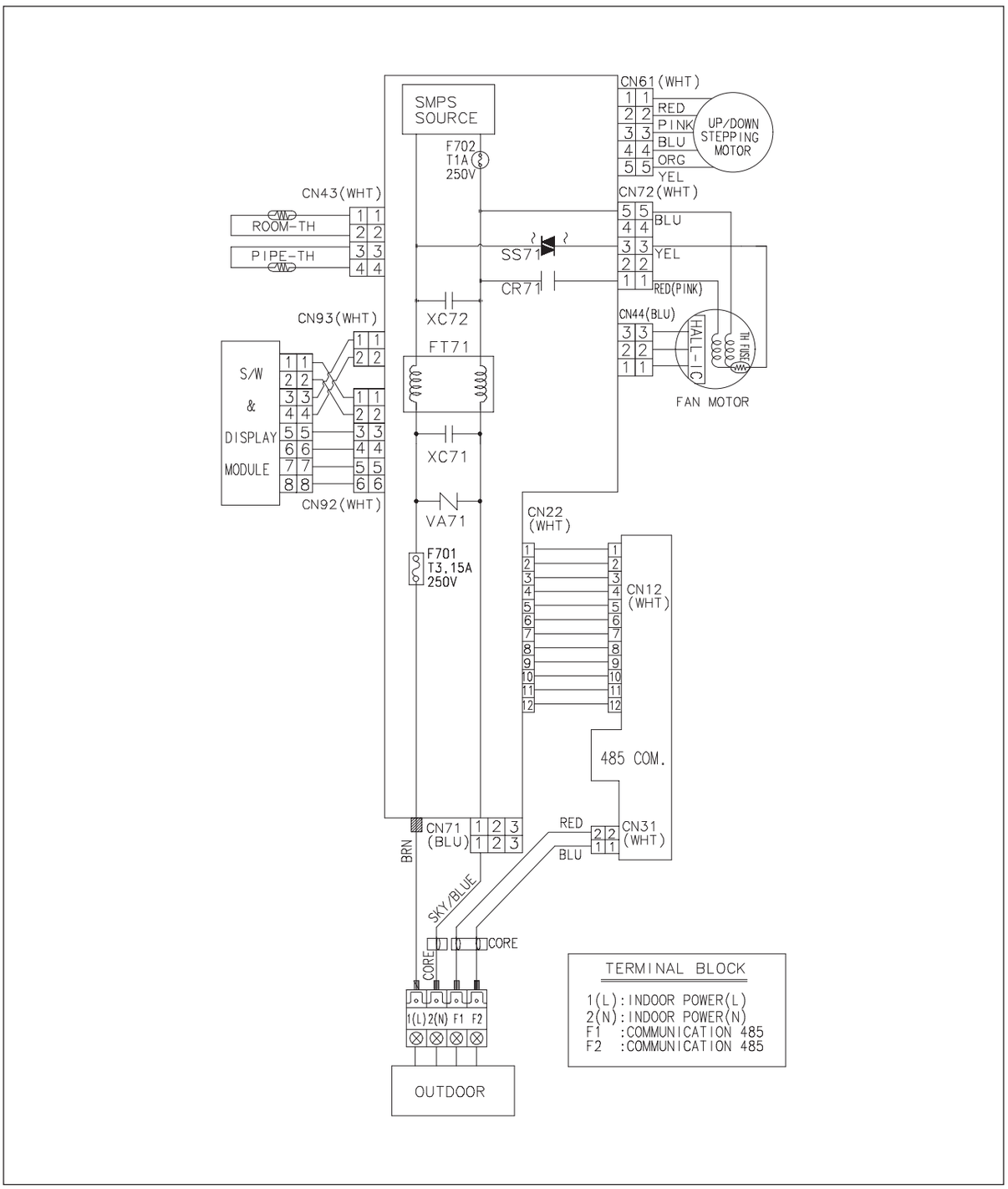
7. Wiring Diagram

7-1 Indoor Unit



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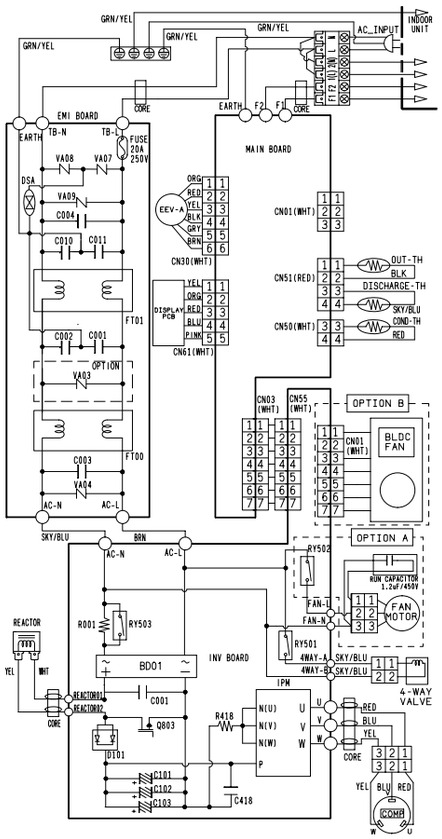
7-2 Outdoor Unit



LED PATTERN YEL	LED PATTERN GRN	LED PATTERN RED	DESCRIPTION
×	×	×	Power Off / Vdd Error
×	×	○	Comp Peak Current (O.C.)
×	×	●	Abnormal Communication
×	●	●	
×	○	×	Comp Starting Error
×	○	●	Normal Operation
×	●	○	DC-link voltage Over/Under Error
×	●	×	Comp Lock Error
○	×	×	Capacity Miss Match
○	×	○	Outdoor Sensor Error
○	×	●	Discharge Over Temp
○	○	×	Discharge Sensor Error
●	×	×	FAN Error
○	○	●	Current Sensor Error
○	●	×	Comp Vm Limit Error
○	●	○	Cond Sensor Error
○	●	●	1min. Time out Comm
●	×	○	Option Error(EEPROM)
●	×	●	Comp Rotation Error
●	○	○	DC-LINK Voltage Sensor Error
●	●	×	GAS Leak Error
●	●	○	AC Zero-Crossing Error
●	○	●	Unit/PFC Over Current Trip
●	○	×	Operation condition secession
●	●	●	Power ON Reset(1sec)
×	○	○	Test Operation at Cooling Mode
○	○	○	Test Operation at Heating Mode

● LED ON
○ LED BLINKING
× LED OFF

OPTION		FAN TYPE
OPTION A	OPTION B	
○	×	AC FAN ONLY
×	○	BLDC FAN ONLY

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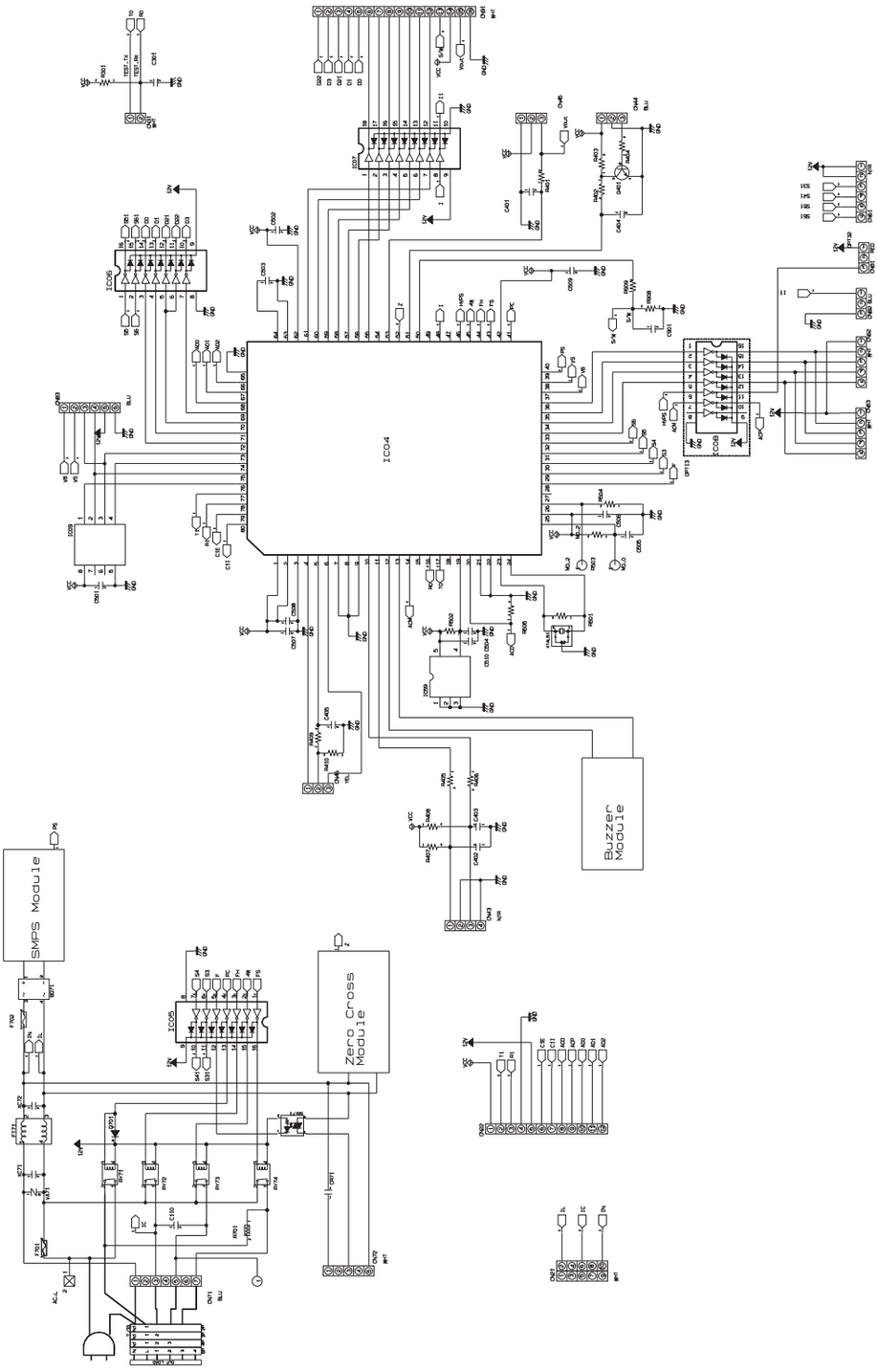
8. Schematic Diagram

8-1 Indoor Unit



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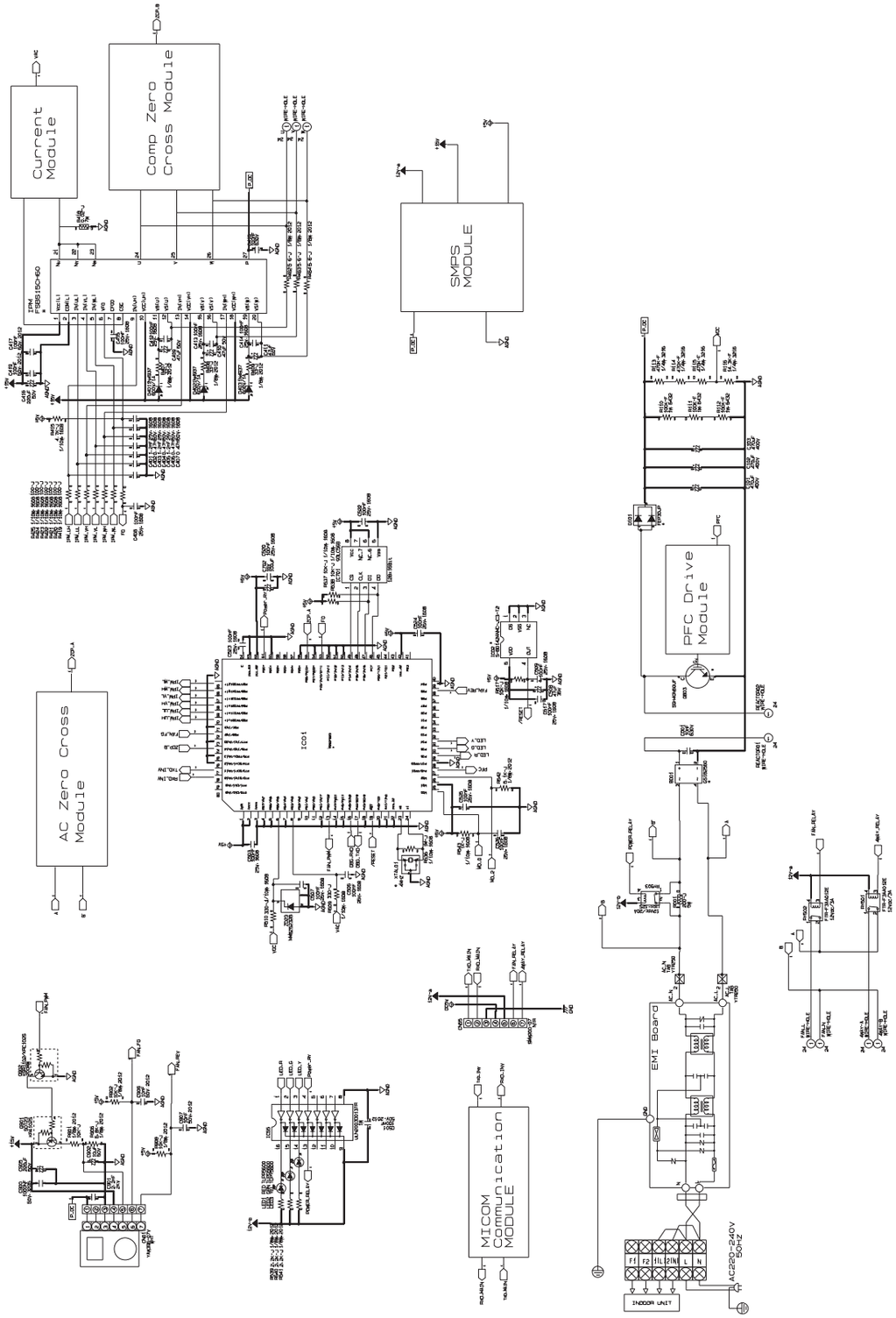
8-2 Outdoor Unit

■ Inverter



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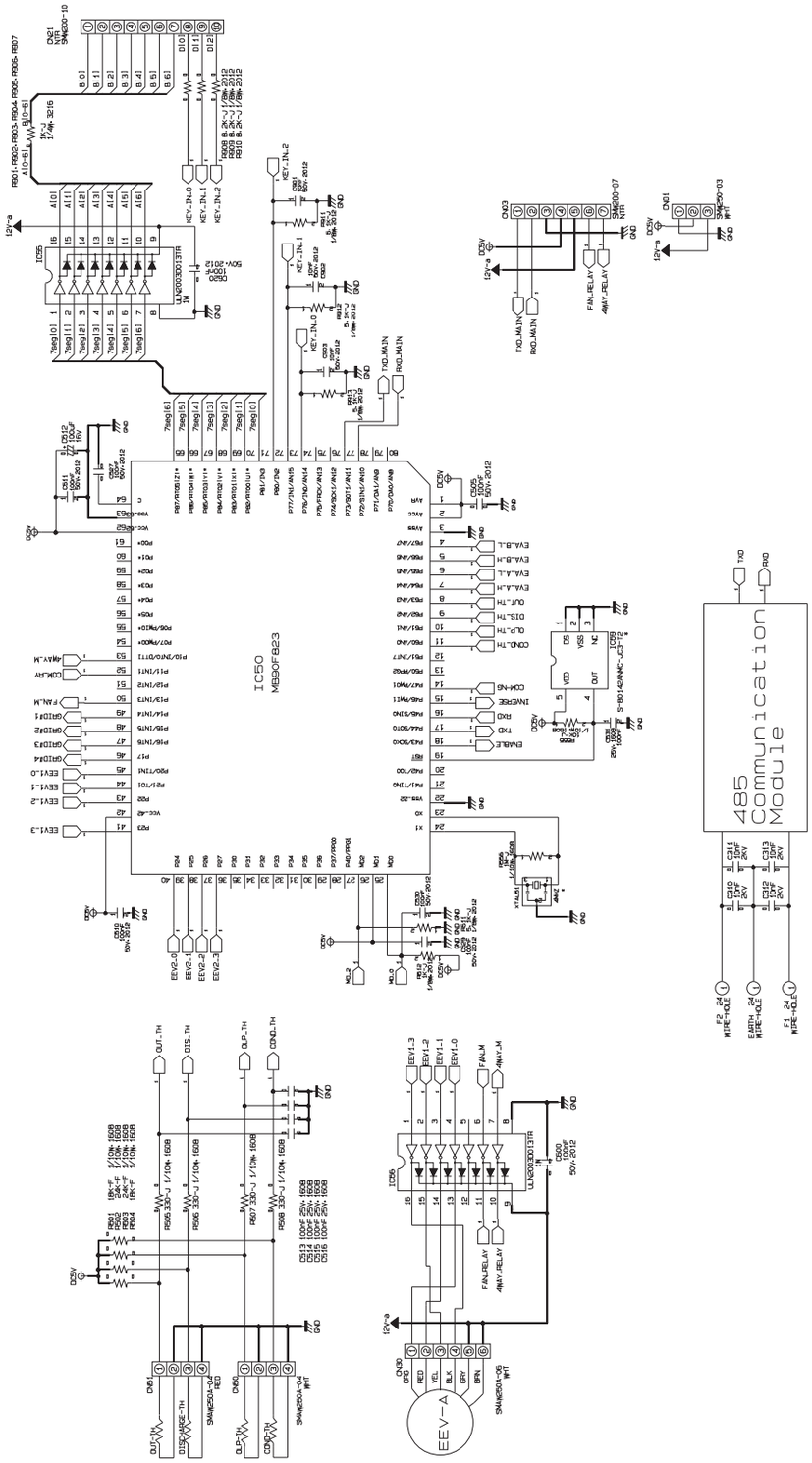
■ Main



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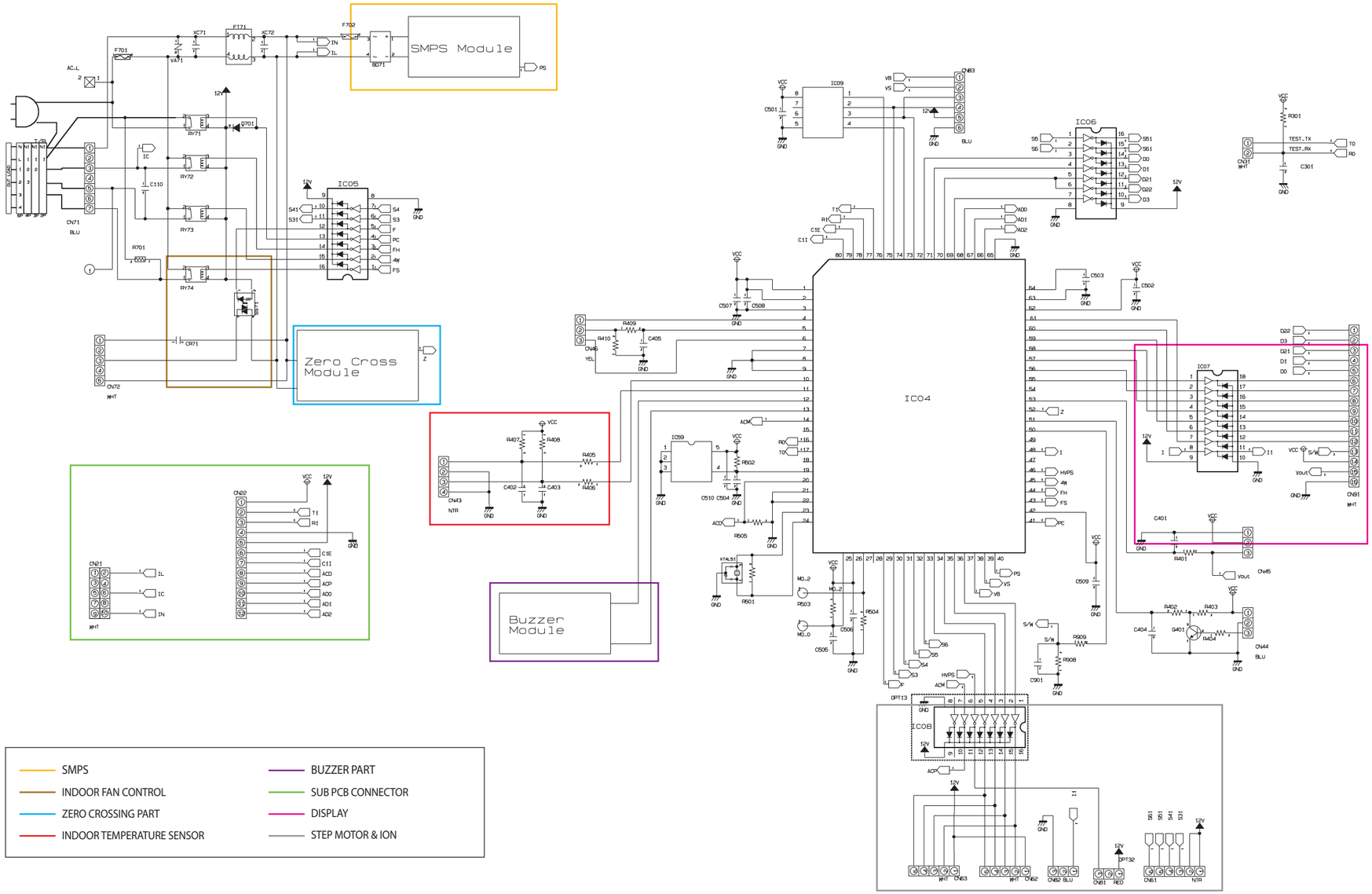
9. Circuit Descriptions

9-1 PCB Circuit Descriptions

9-1-1 Indoor Unit



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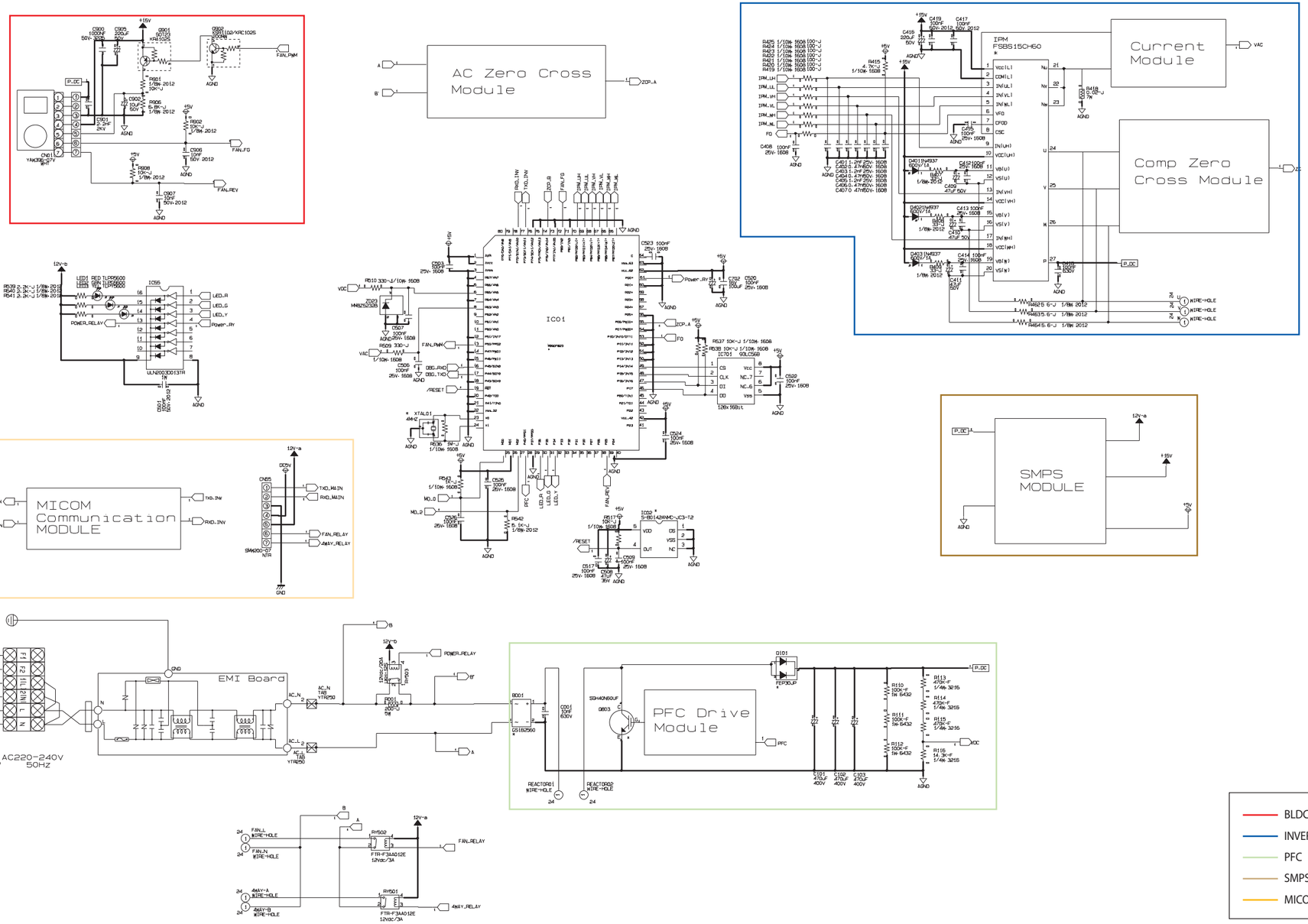
Circuit Descriptions

9-1-2 Outdoor Unit(Inverter)



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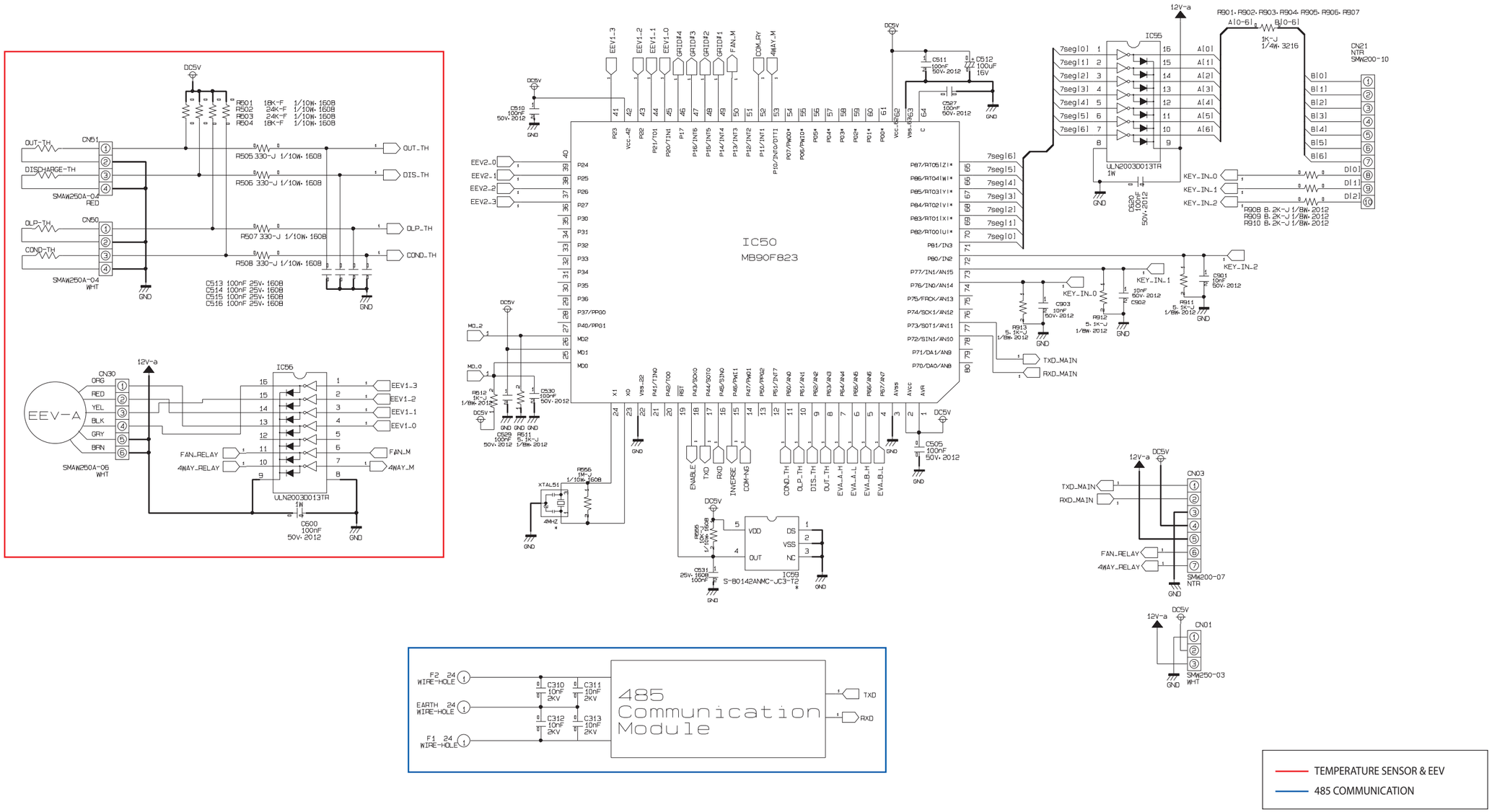
Circuit Descriptions

9-1-3 Outdoor Unit(Main)



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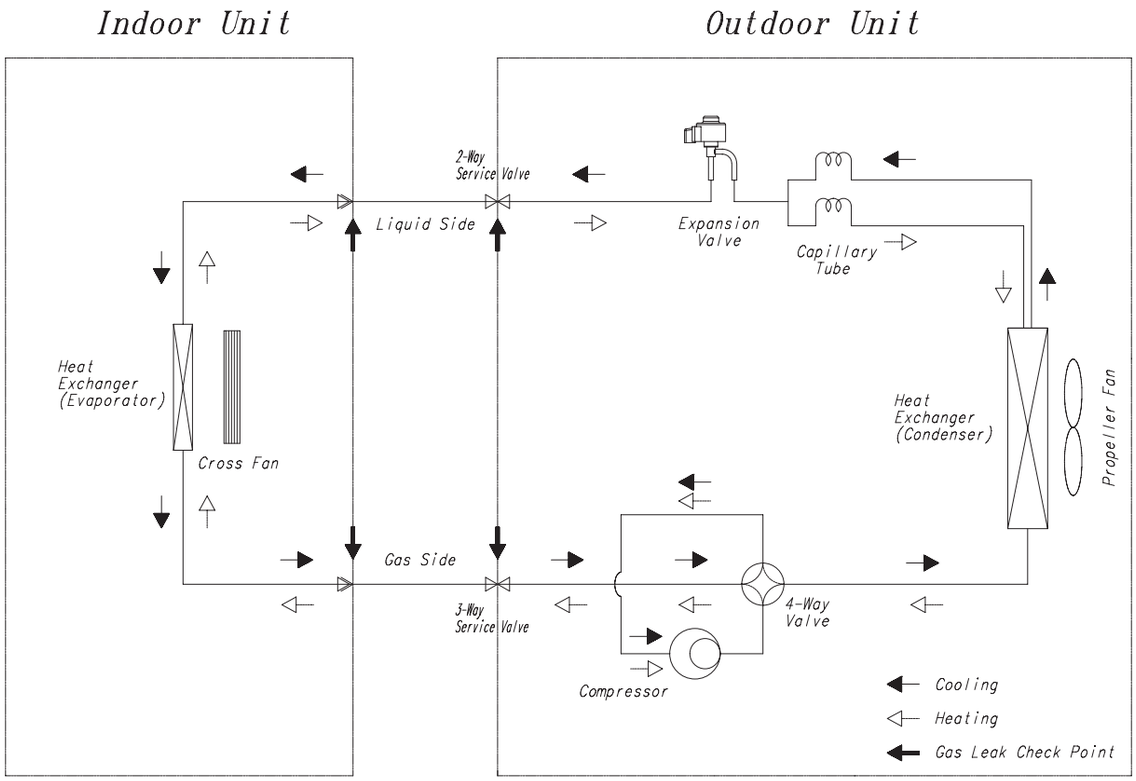
9-2 Refrigerating Cycle Diagram



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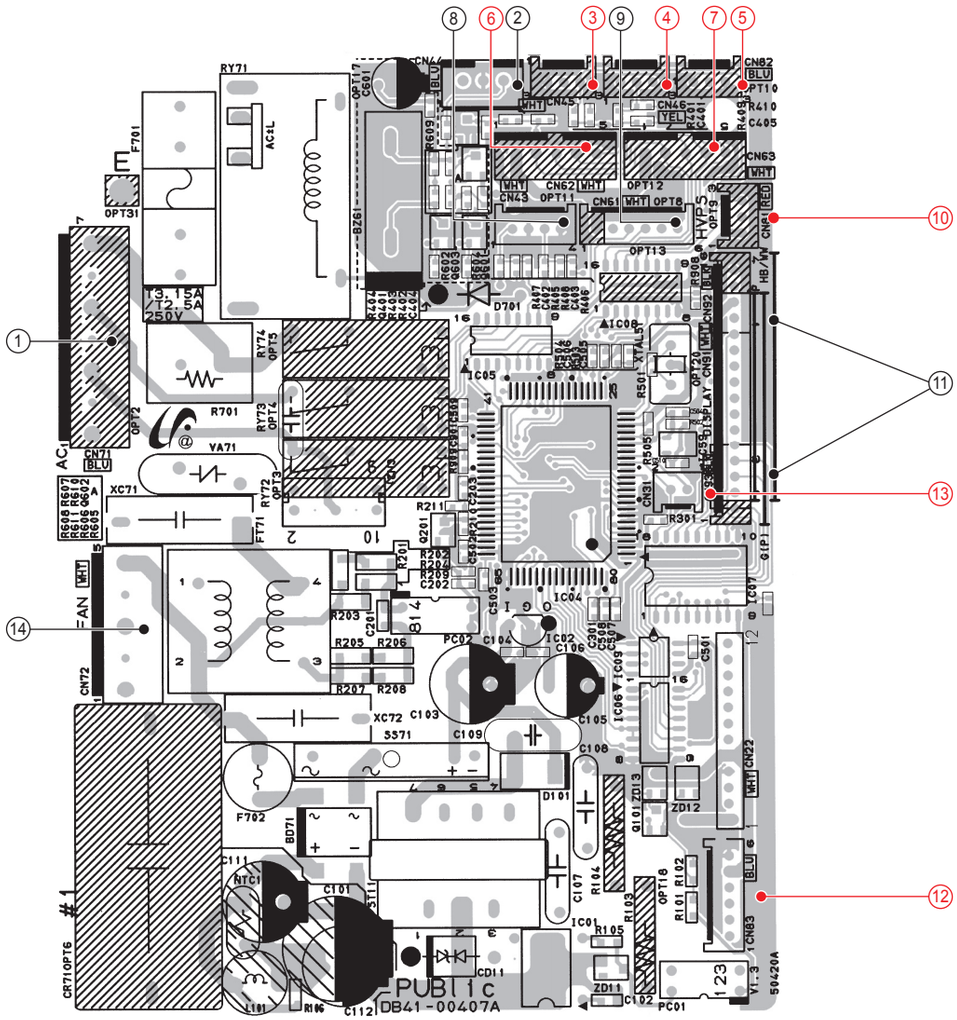
10. PCB Diagram

10-1 Indoor PCB

⚠ The red number connector is not used.



①	Power	⑧	Temperature Sensor
②	Motor RPM Feedback	⑨	BLADE-H Step Motor
③	Remocon Module	⑩	HVPS(High voltage Generator)
④	Humidity Sensor	⑪	DISPLAY PCB Connection
⑤	Anions	⑫	Melody PCB Connection
⑥	Auto grill 1	⑬	Test Board Connection
⑦	Auto grill 2	⑭	Indoor Fan Motor

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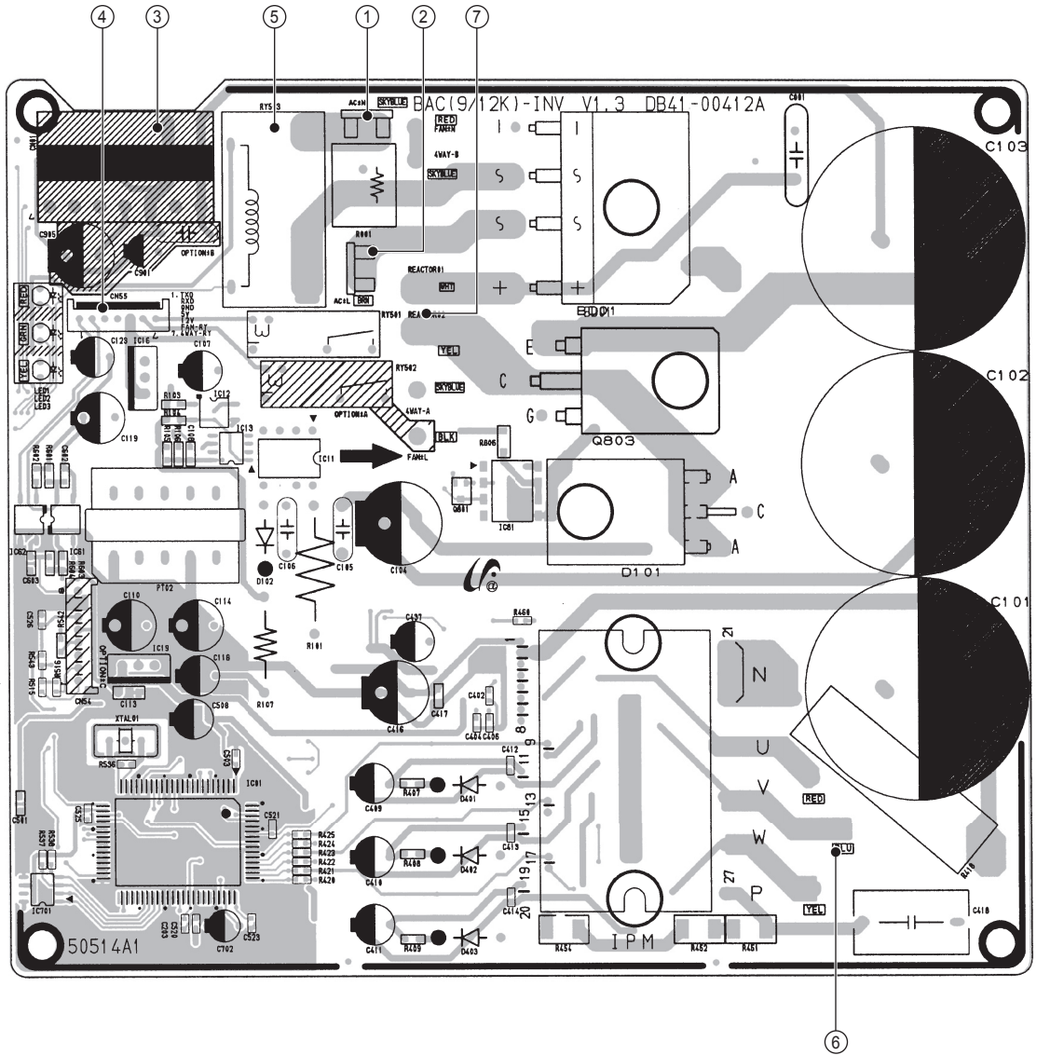
10-2 Outdoor Inverter PCB



①	Power N	⑤	Power Relay
②	Power L	⑥	Comp. Connector Wire
③	BLDC Fan : YAW396-07V (WHT)	⑦	Reactor Connector Wire
④	Main PCB Connector : SMW200-07(WHT)		

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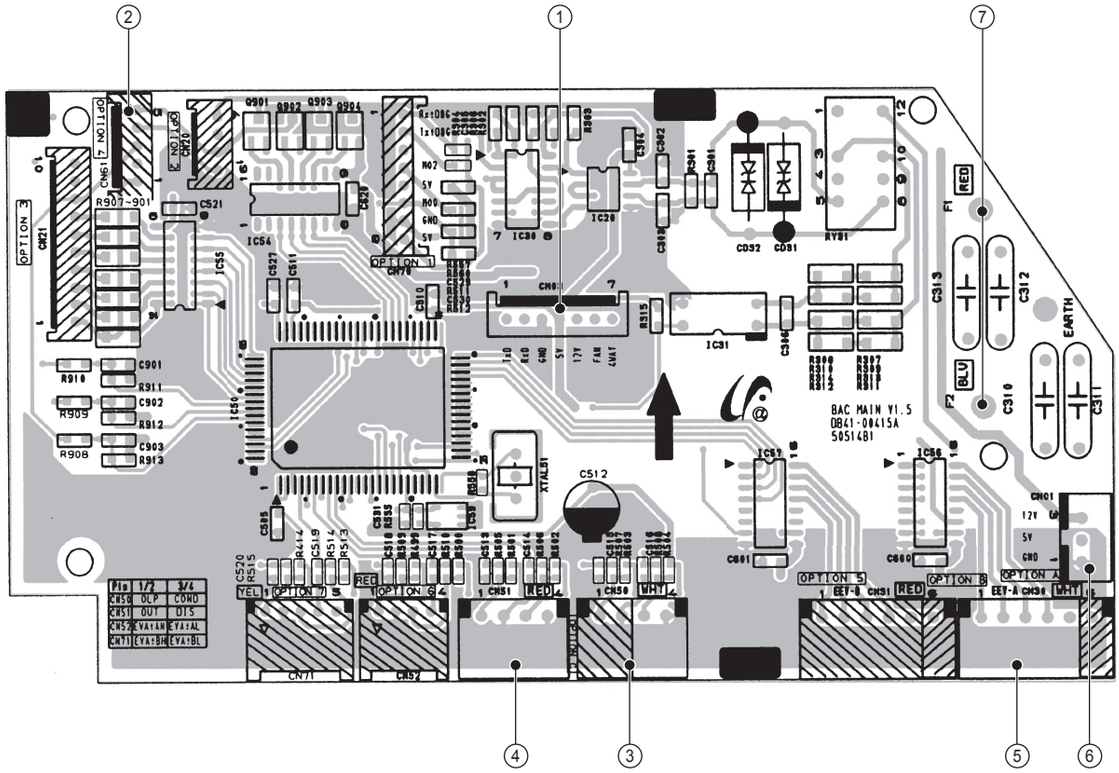
10-3 Outdoor Main PCB



①	Inverter PCB Connector : SMW200-07(WHT)
②	Display PCB Connector : SMW200-07(WHT)
③	OLP/Cond. Temperature Sensor : SMAW250A-04(WHT)
④	Outdoor/Discharge Temperature Sensor : SMAW250A-04(RED)
⑤	EEV Connector : SMAW250A-06(WHT)
⑥	DC5V Connector : SMW250-03(WHT)
⑦	Communication

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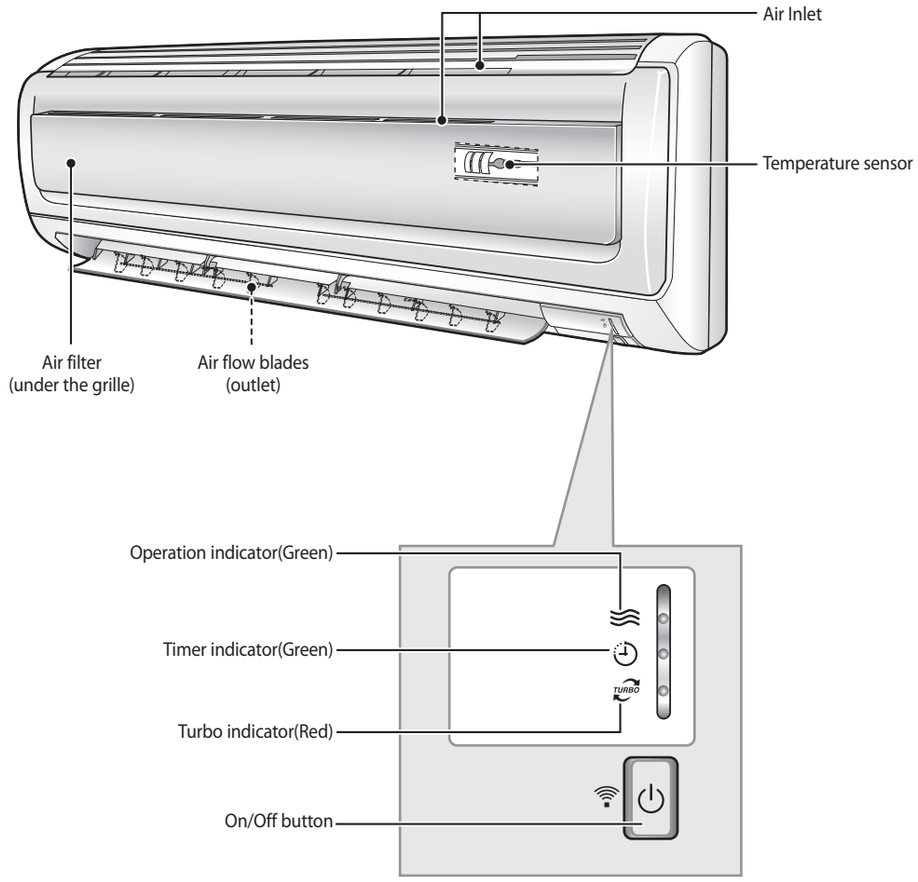
11. Operating Instructions

11-1 Name of Each Part

11-1-1 Indoor Unit

The design and shape can be changed according to the model.



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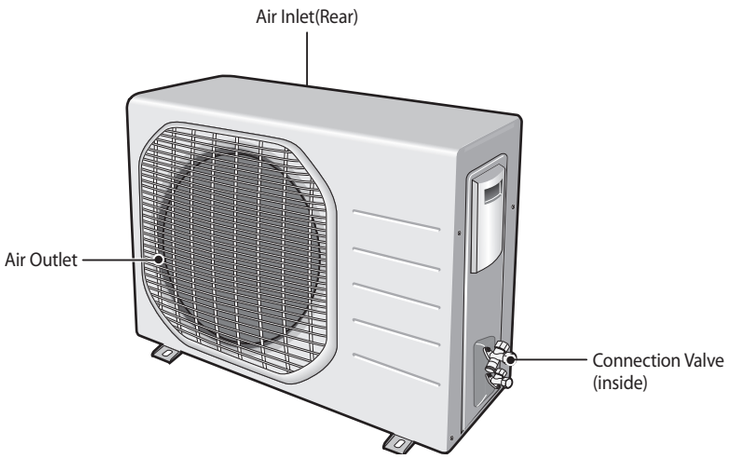
11-1-2 Outdoor Unit



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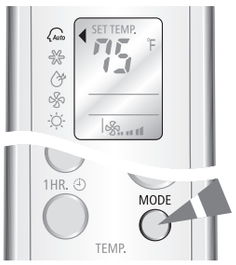
11-2 Main Function

11-2-1 Basic Function

Mode	Explanation	Remark
Auto Mode	Press the MODE button on the remote control until Auto is displayed.	
Cool Mode	Press the MODE button on the remote control until ❄ is displayed.	
	Press the FAN SPEED button to select the fan speed until the required setting is displayed. Automatic (rotated : → →) Low Medium High Turbo (Maximum)	
Heat Mode	Press the MODE button on the remote control until ☼ is displayed.	
	Press the FAN SPEED button to select the fan speed until the required setting is displayed. Automatic (rotated : → →) Low Medium High	

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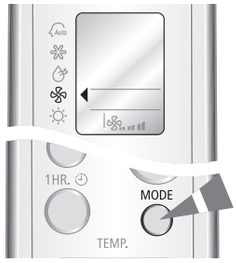
Basic Function(cont.)

Mode	Explanation	Remark
Dry Mode	Press the MODE button on the remote control until is displayed.	
Fan Mode	Press the MODE button on the remote control until is displayed.	

11-2-2 Applied Function

Mode	Explanation	Remark
Turbo Function	Press the TURBO button. • After 30 minutes, the air conditioner is reset automatically to the previous setting. • You can select the Turbo function in the Auto, Cool and Heat mode. If you select this function in the Dry or Fan mode, the mode changes to the Auto mode.	
Energy Saving Function	Press the ENERGY SAVING button.	

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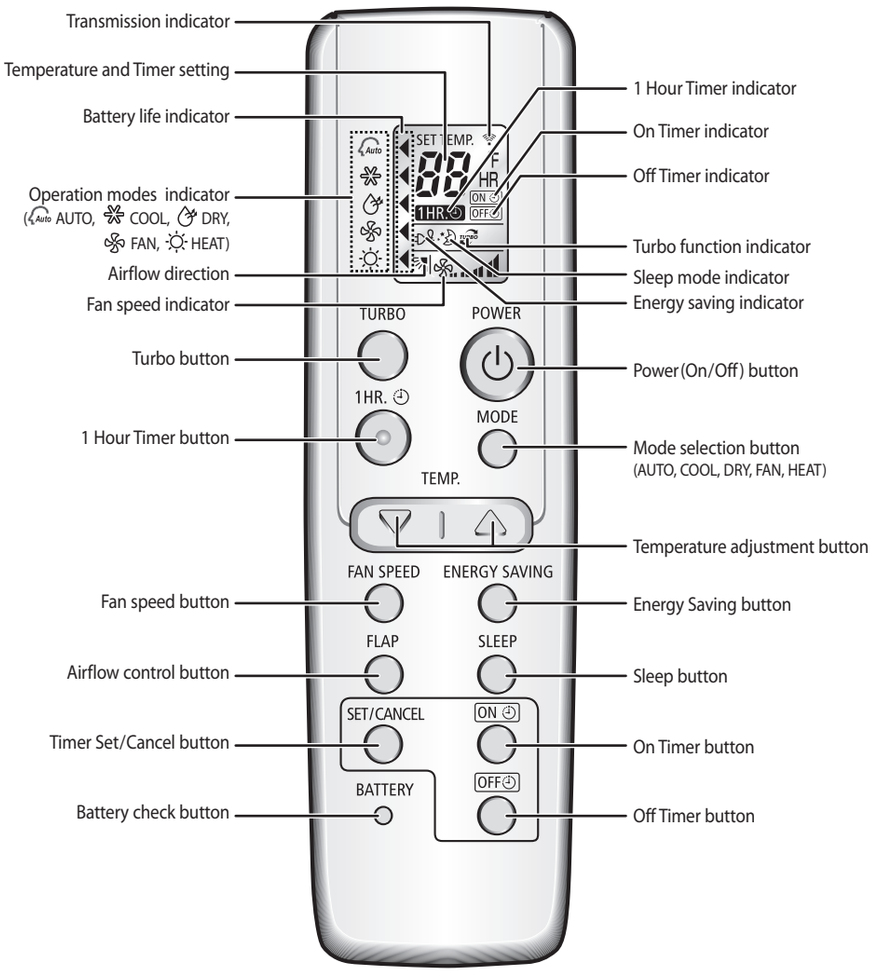
11-3 Wireless Remote Control-Buttons and Display



Note : • Each mode indicator shows the current setting and the battery life.
- You can check the battery life by pressing the BATTERY button.
- The number of the battery life indicator means the remaining battery life. Replace the batteries when only one battery life indicator remains.

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12. Troubleshooting

12-1 Items to be checked first

1. The input voltage should be rating voltage ±10% range.
   The air conditioner may not operate properly if the voltage is out of this range.

2. Is the link cable linking the indoor unit and the outdoor unit linked properly?
   The indoor unit and the outdoor unit shall be linked by 4 cables.
   Check the terminals if the indoor unit and outdoor unit are properly linked by the same number of cables.
   Otherwise the air conditioner may not operate properly.

3. When a problem occurs due to the contents illustrated in the table below it is a symptom not related to the malfunction of the air conditioner.

No	Operation of air conditioner	Explanation
1	In a COOL operation mode, the compressor does not operate at a room temperature higher than the setting temperature that the INDOOR FAN should operate. **[In case of heat pump model]** In a HEAT operation mode, the compressor does not operate at a room temperature lower than the setting temperature that indoor fan should operate.	In happens after a delay of 3 minutes when the compressor is reoperated. The same phenomenon occurs when a power is on. As a phenomenon that the compressor is reoperated after a delay of 3 minutes, the indoor fan is adjusted automatically with reference to a temperature of the air blew.
2	Compressor stops operation intermittently in DRY( ) mode.	Compressor operation is controlled automatically in DRY mode depending on the room temperature and humidity.
3	**[In case of heat pump model]** Compressor of the outdoor unit is operating although it is turned off in a HEAT mode.	When the unit is turned off while de-ice is activated, the compressor continues operation for up to 9 minutes(maximum) until the deice is completed.
4	**[In case of heat pump model]** The compressor and indoor fan stop intermittently in HEAT mode.	The compressor and indoor fan stop intermittently if room temperature exceeds a setting temperature in order to protect the compressor from overheated air in a HEAT mode.
5	**[In case of heat pump model]** Indoor fan and outdoor fan stop operation intermittently in a HEAT mode.	The compressor operates in a reverse cycle to remove exterior ice in a HEAT mode, and indoor fan and outdoor fan do not operate intermittently for within 20% of the total heater operation

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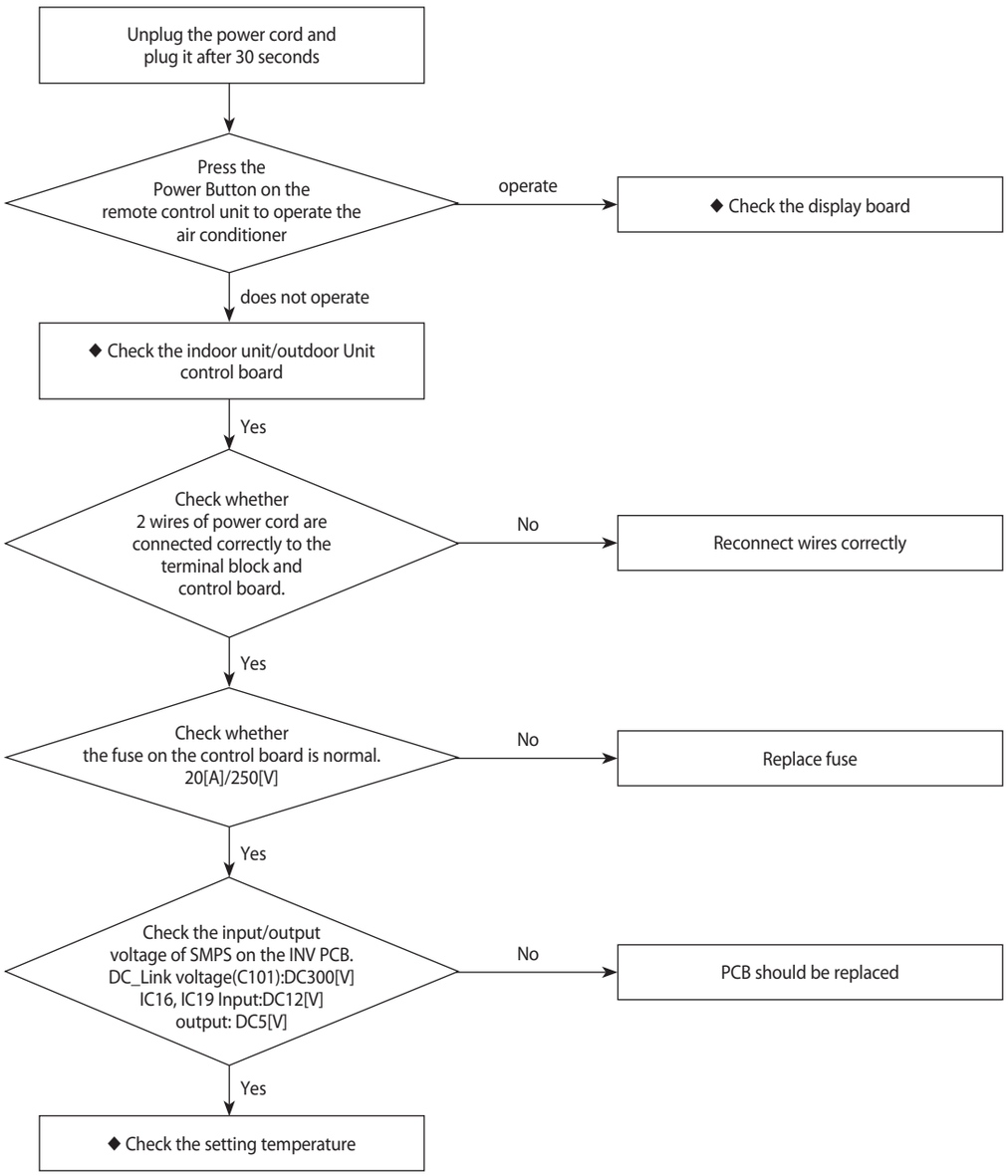
12-2 Fault Diagnosis by Symptom

12-2-1 No Power (completely dead)-Initial diagnosis

1. Checklist :
   1) Is input voltage normal?
   2) Is AC power linked correctly?
   3) Is input voltage of DC regulator IC KA7805 (IC16, IC19) normal? (11VDC-12.5VDC) - Outdoor Controller
   4) Is output voltage of DC regulator IC KA7805 (IC16, IC19) normal? (4.5VDC-5.5VDC) - Outdoor Controller

2. Troubleshooting procedure


Unplug the power cord and plug it after 30 seconds
Press the Power Button on the remote control unit to operate the air conditioner
operate
◆ Check the display board
does not operate
◆ Check the indoor unit/outdoor Unit control board
Yes
Check whether 2 wires of power cord are connected correctly to the terminal block and control board.
No
Reconnect wires correctly
Yes
Check whether the fuse on the control board is normal. 20[A]/250[V]
No
Replace fuse
Yes
Check the input/output voltage of SMPS on the INV PCB. DC_Link voltage(C101):DC300[V] IC16, IC19 Input:DC12[V] output: DC5[V]
No
PCB should be replaced
Yes
◆ Check the setting temperature

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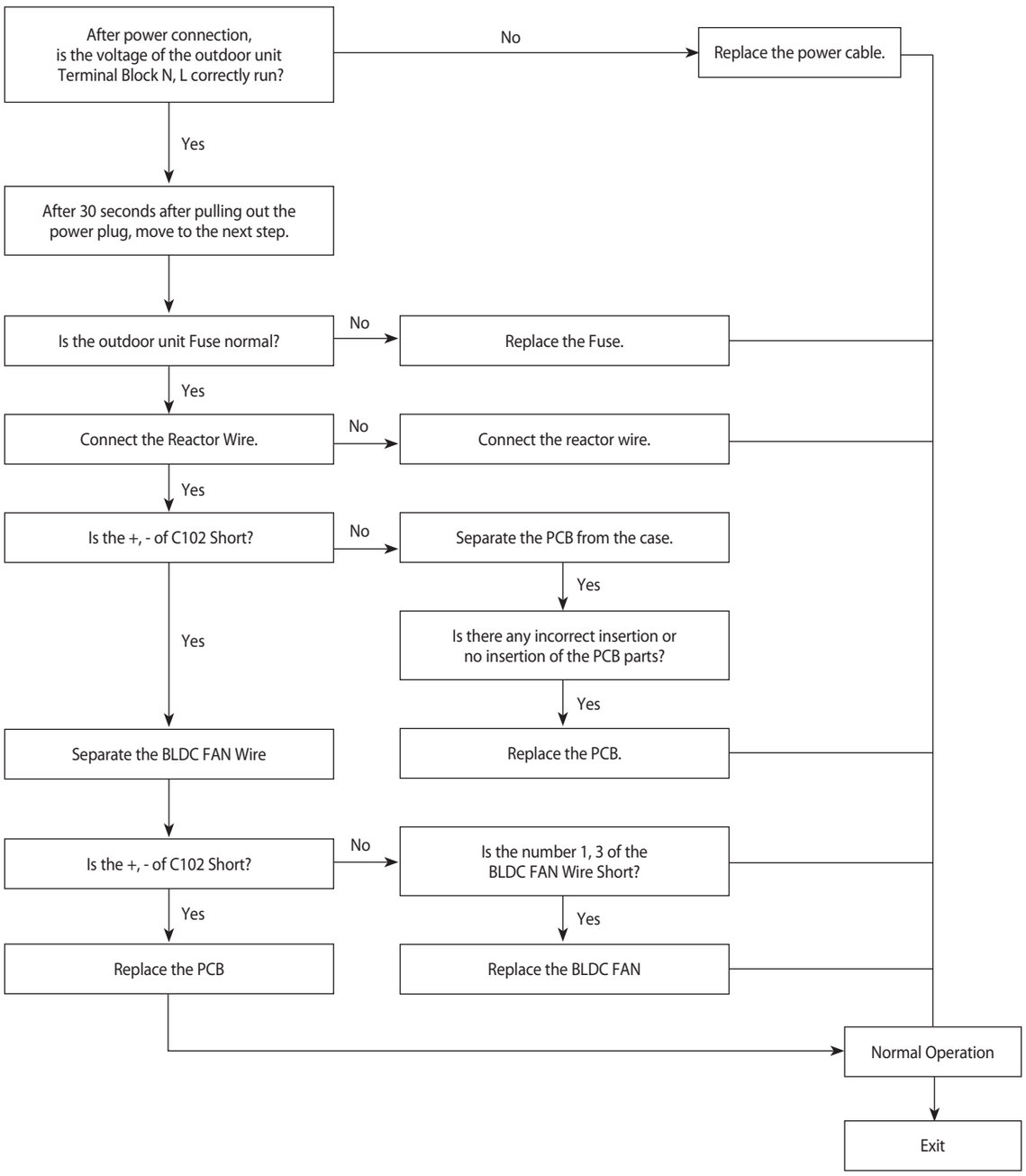
12-2-2 The Outdoor unit power supply error

1. Checklist :
   1) Are the input power voltage and power connection correct?
   2) Is there any Fuse Short of the indoor?outdoor unit?
   3) Is the Reactor Wire of the outdoor unit correctly connected?

2. Troubleshooting procedure


After power connection, is the voltage of the outdoor unit Terminal Block N, L correctly run?
No
Replace the power cable.
Yes
After 30 seconds after pulling out the power plug, move to the next step.
Is the outdoor unit Fuse normal?
No
Replace the Fuse.
Yes
Connect the Reactor Wire.
No
Connect the reactor wire.
Yes
Is the +, - of C102 Short?
No
Separate the PCB from the case.
Yes
Is there any incorrect insertion or no insertion of the PCB parts?
Yes
Yes
Separate the BLDC FAN Wire
Replace the PCB.
Is the +, - of C102 Short?
No
Is the number 1, 3 of the BLDC FAN Wire Short?
Yes
Yes
Replace the PCB
Replace the BLDC FAN
Normal Operation
Exit

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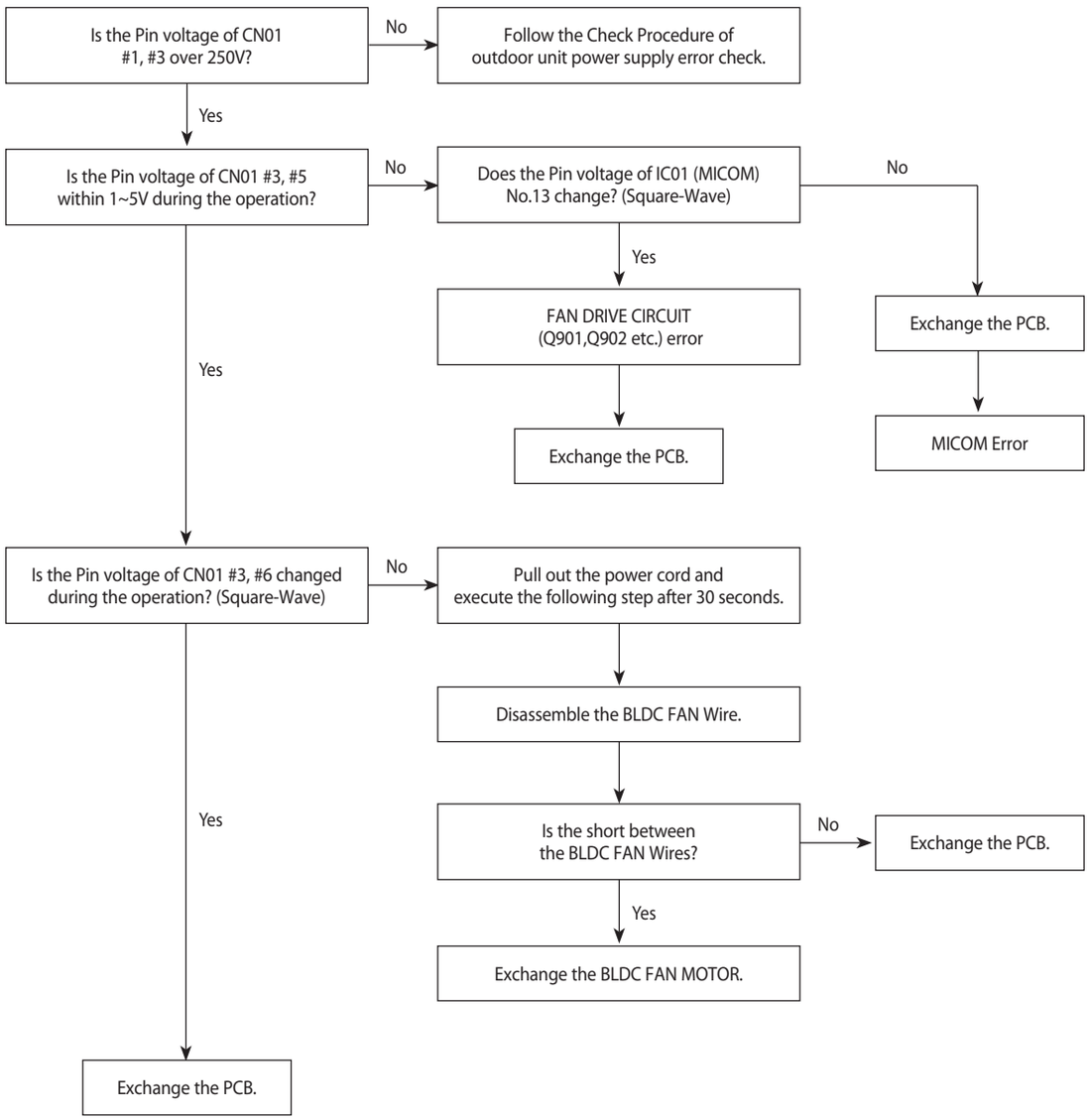
12-2-3 The Outdoor unit Fan error

1. Checklist :
   1) Are the input power voltage and the power connection correct?
   2) Is the motor wire connected to the outdoor PCB correctly?
   3) Is there no assembly error or none-assembly in the terminal of motor wire connector?
   4) Is there no obstacle at the surrounding of motor and propeller?

2. Troubleshooting procedure


Is the Pin voltage of CN01 #1, #3 over 250V?
No
Follow the Check Procedure of outdoor unit power supply error check.
Yes
Is the Pin voltage of CN01 #3, #5 within 1~5V during the operation?
No
Does the Pin voltage of IC01 (MICOM) No.13 change? (Square-Wave)
No
Yes
FAN DRIVE CIRCUIT (Q901,Q902 etc.) error
Exchange the PCB.
Exchange the PCB.
MICOM Error
Yes
Is the Pin voltage of CN01 #3, #6 changed during the operation? (Square-Wave)
No
Pull out the power cord and execute the following step after 30 seconds.
Disassemble the BLDC FAN Wire.
Is the short between the BLDC FAN Wires?
No
Exchange the PCB.
Yes
Exchange the BLDC FAN MOTOR.
Yes
Exchange the PCB.

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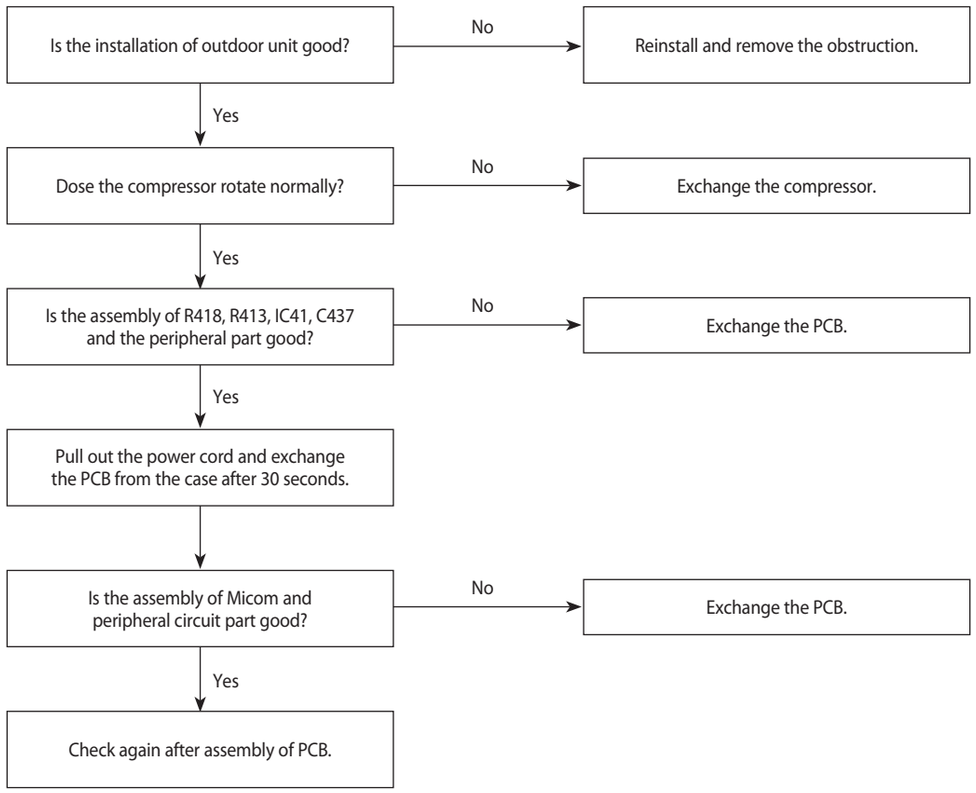
12-2-4 Total current Trip error

1. Checklist :
   1) Is the input power voltage proper?
   2) Is the refrigerant charged properly?
   3) Does the compressor rotate normally? (Reverse rotation, Locking etc.)
   4) Dose the outdoor fan operate normally? (Fan propeller loss, Motor error etc.)
   5) Is the installation condition of outdoor unit good? (Piping, Space etc.)
   6) Is there no ventilation obstruction at the surrounding of outdoor? (Outdoor unit cover, Fan front obstruction etc.)

2. Troubleshooting procedure


Is the installation of outdoor unit good?
No
Reinstall and remove the obstruction.
Yes
Dose the compressor rotate normally?
No
Exchange the compressor.
Yes
Is the assembly of R418, R413, IC41, C437 and the peripheral part good?
No
Exchange the PCB.
Yes
Pull out the power cord and exchange the PCB from the case after 30 seconds.
Is the assembly of Micom and peripheral circuit part good?
No
Exchange the PCB.
Yes
Check again after assembly of PCB.

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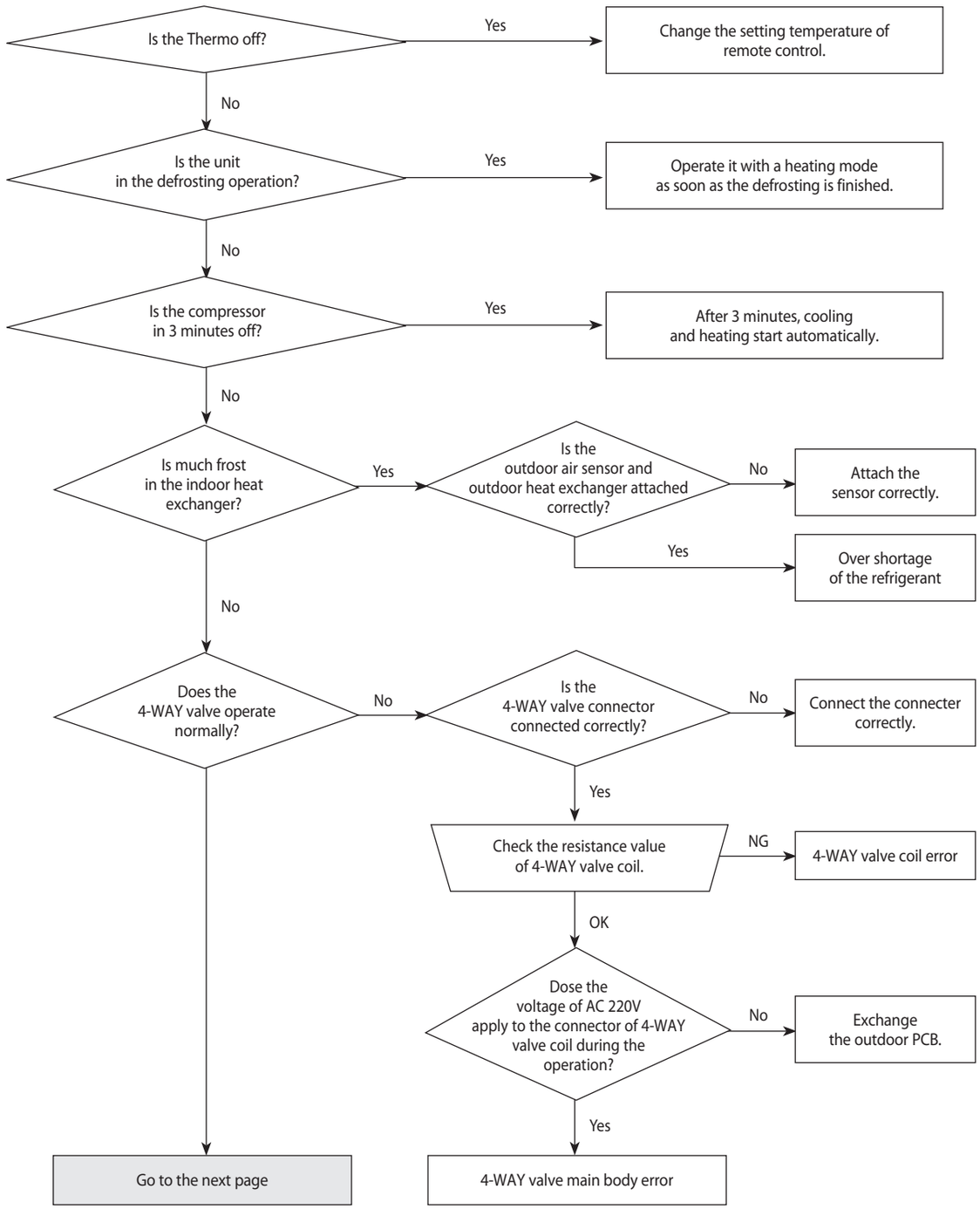
12-2-5 In case of heating at the cooling mode or cooling at the heating mode

1. Troubleshooting procedure


Is the Thermo off?
Yes
Change the setting temperature of remote control.
No
Is the unit in the defrosting operation?
Yes
Operate it with a heating mode as soon as the defrosting is finished.
No
Is the compressor in 3 minutes off?
Yes
After 3 minutes, cooling and heating start automatically.
No
Is much frost in the indoor heat exchanger?
Yes
Is the outdoor air sensor and outdoor heat exchanger attached correctly?
No
Attach the sensor correctly.
Yes
Over shortage of the refrigerant
No
Does the 4-WAY valve operate normally?
No
Is the 4-WAY valve connector connected correctly?
No
Connect the connecter correctly.
Yes
Check the resistance value of 4-WAY valve coil.
NG
4-WAY valve coil error
OK
Dose the voltage of AC 220V apply to the connector of 4-WAY valve coil during the operation?
No
Exchange the outdoor PCB.
Yes
Go to the next page
4-WAY valve main body error

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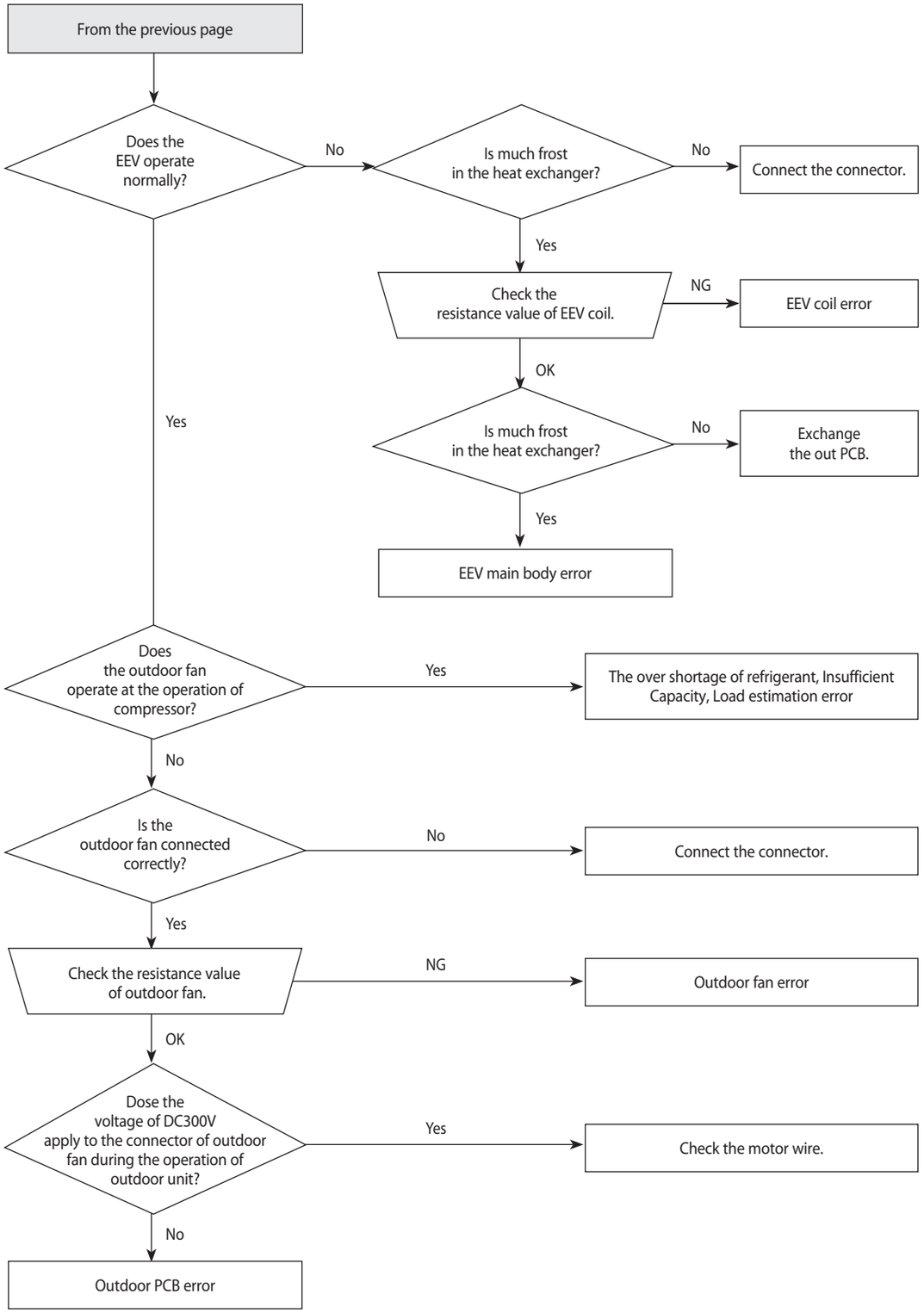
In case of heating at the cooling mode or cooling at the heating mode(cont.)



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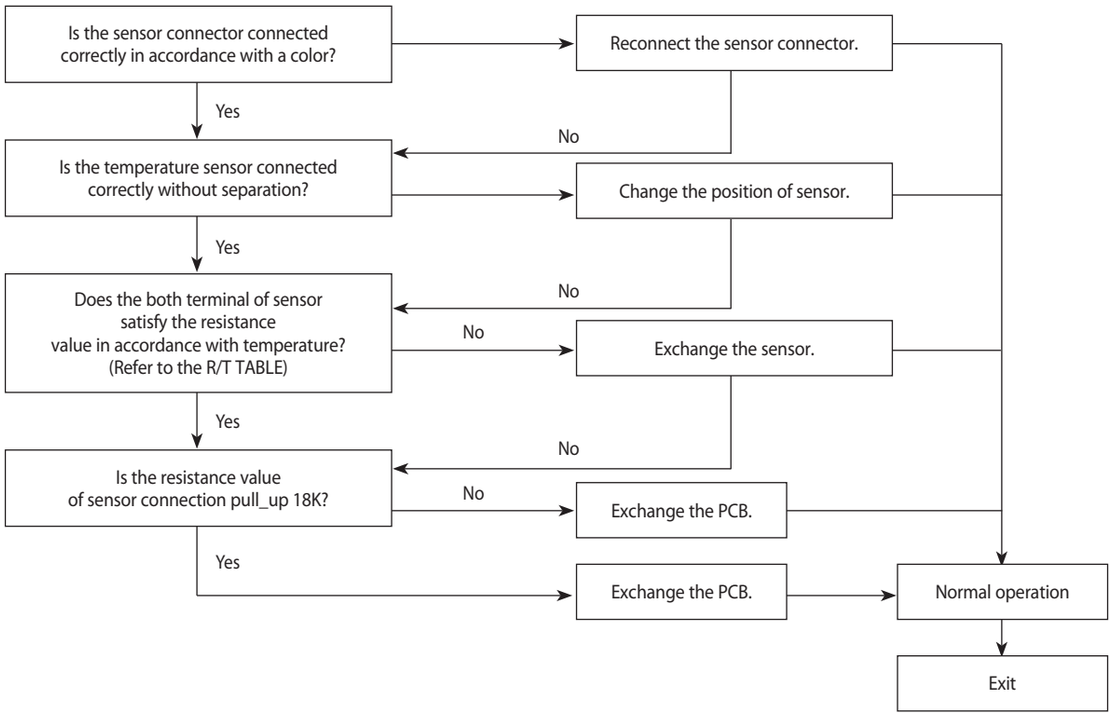
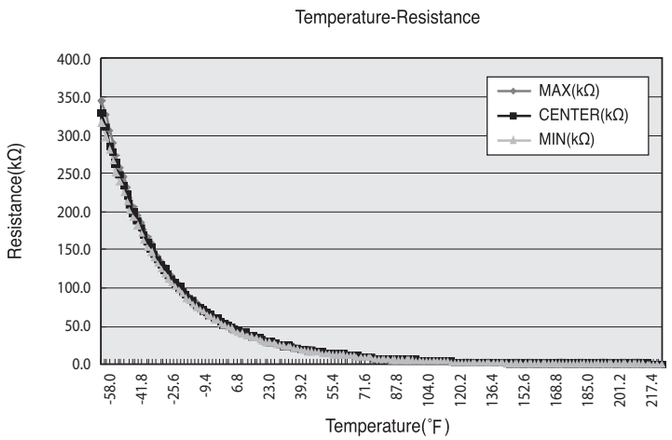
12-2-6 Outdoor temperature sensor error

1. Checklist :
   1) Is the sensor connector connected correctly?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   4) Is the resistance value of sensor connection pull_up correct?

2. Troubleshooting procedure





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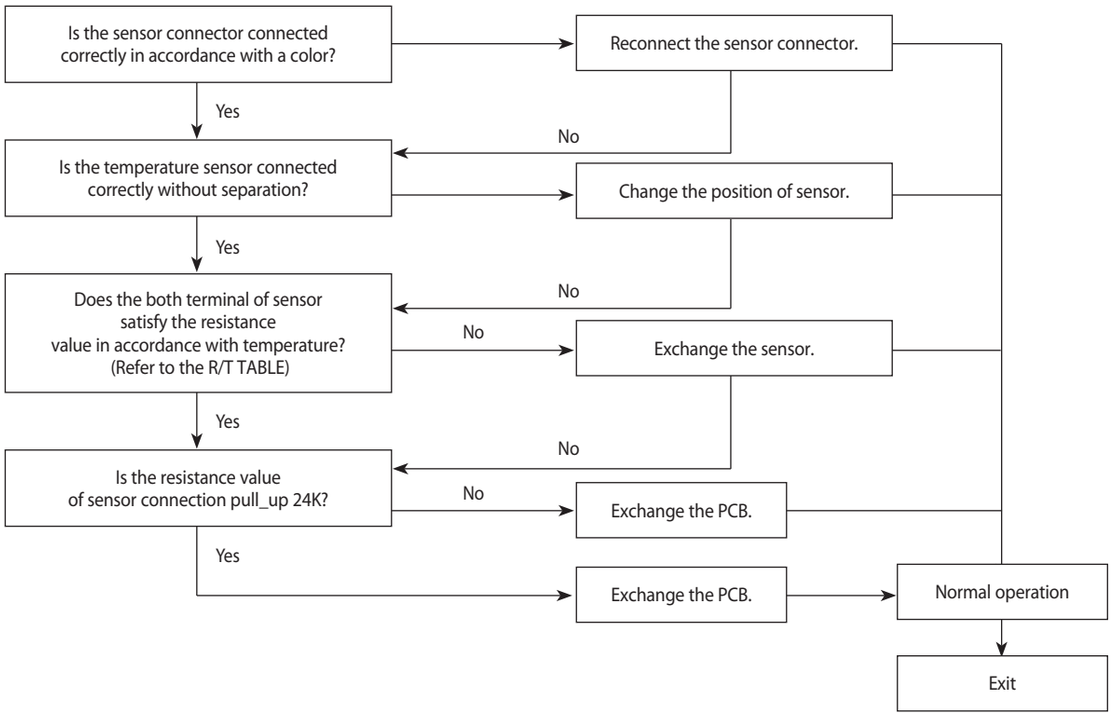
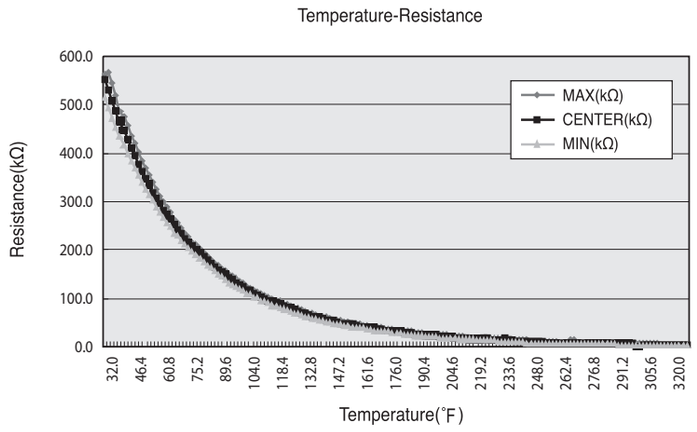
12-2-7 Discharge temperature sensor error

1. Checklist :
   1) Is the sensor connector connected correctly?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   4) Is the resistance value of sensor connection pull_up correct?

2. Troubleshooting procedure





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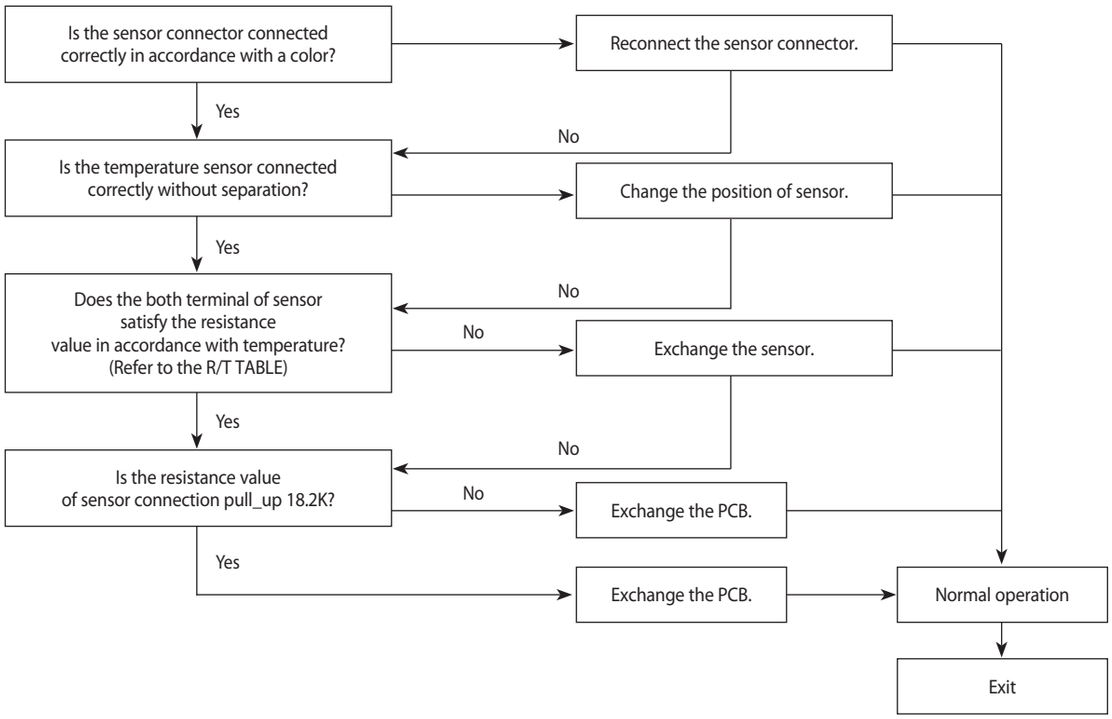
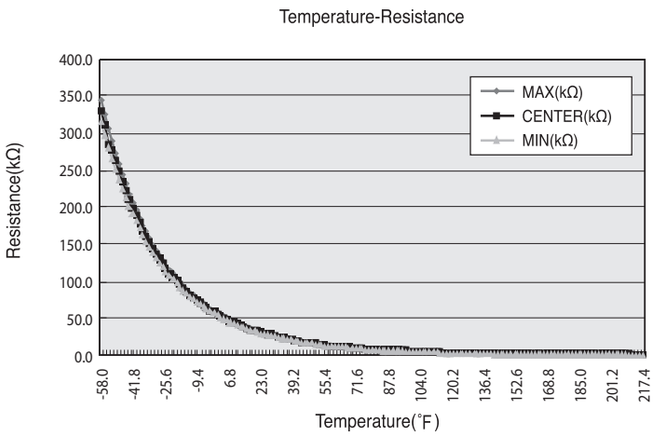
12-2-8 Coil temperature sensor error

1. Checklist :
   1) Is the sensor connector connected correctly?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   4) Is the resistance value of sensor connection pull_up correct?

2. Troubleshooting procedure





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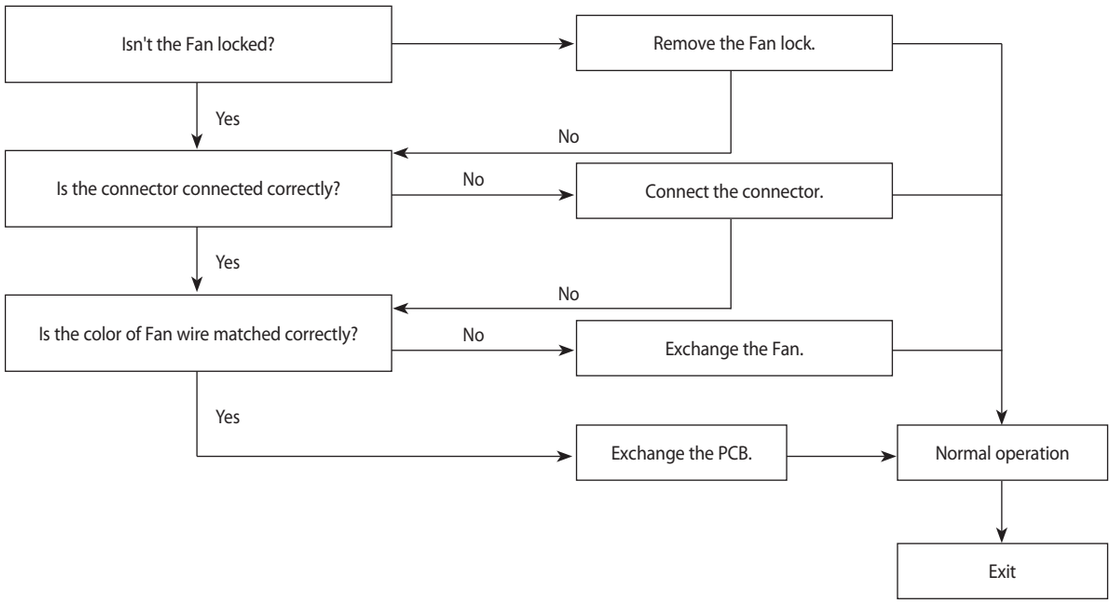
12-2-9 Fan error

1. Checklist :
   1) Isn't the fan locked?
   2) Is the sensor placed correctly?
   3) Does the both terminal of sensor satisfy the resistance value in accordance with temperature?
   4) Is the resistance value of sensor connection pull_up correct?

2. Troubleshooting procedure



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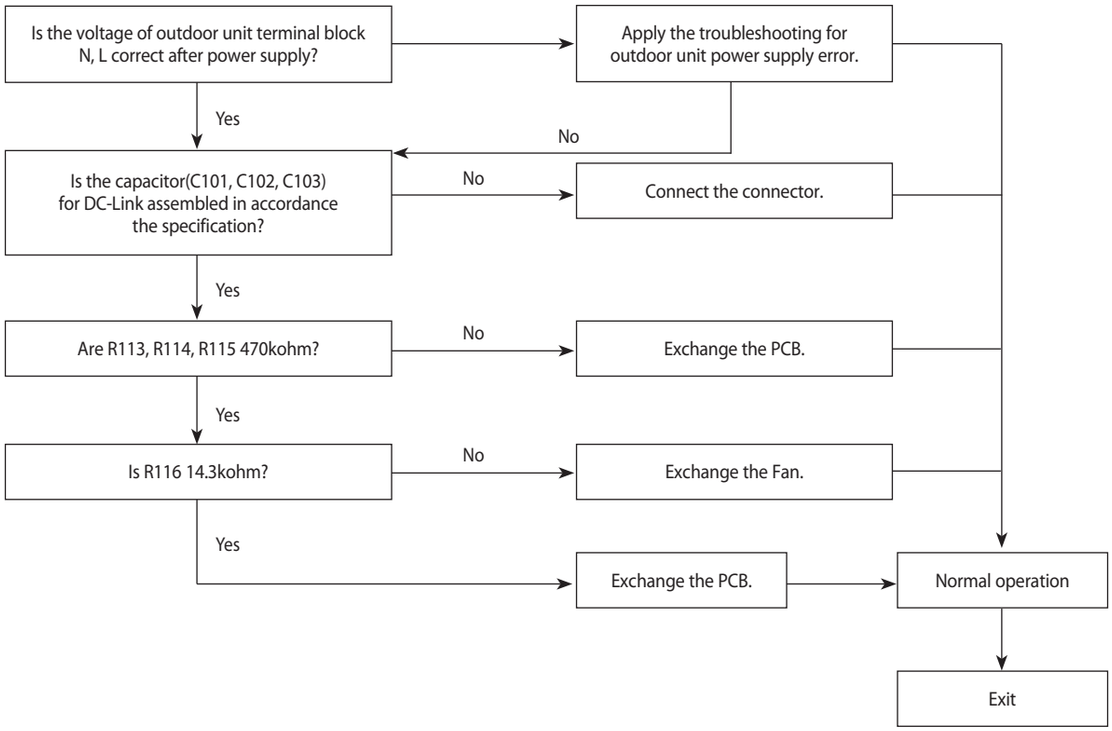
12-2-10 DC-Link voltage sensor error

1. Checklist :
   1) Is the voltage of outdoor unit terminal block N, L correct after power supply?
   2) Is the capacitor(C101, C102, C103) for DC-Link assembled in accordance the specification?
   3) Are R113, R114, R115 470 Kohm?
   4) Is R116 14.3Kohm?

2. Troubleshooting procedure



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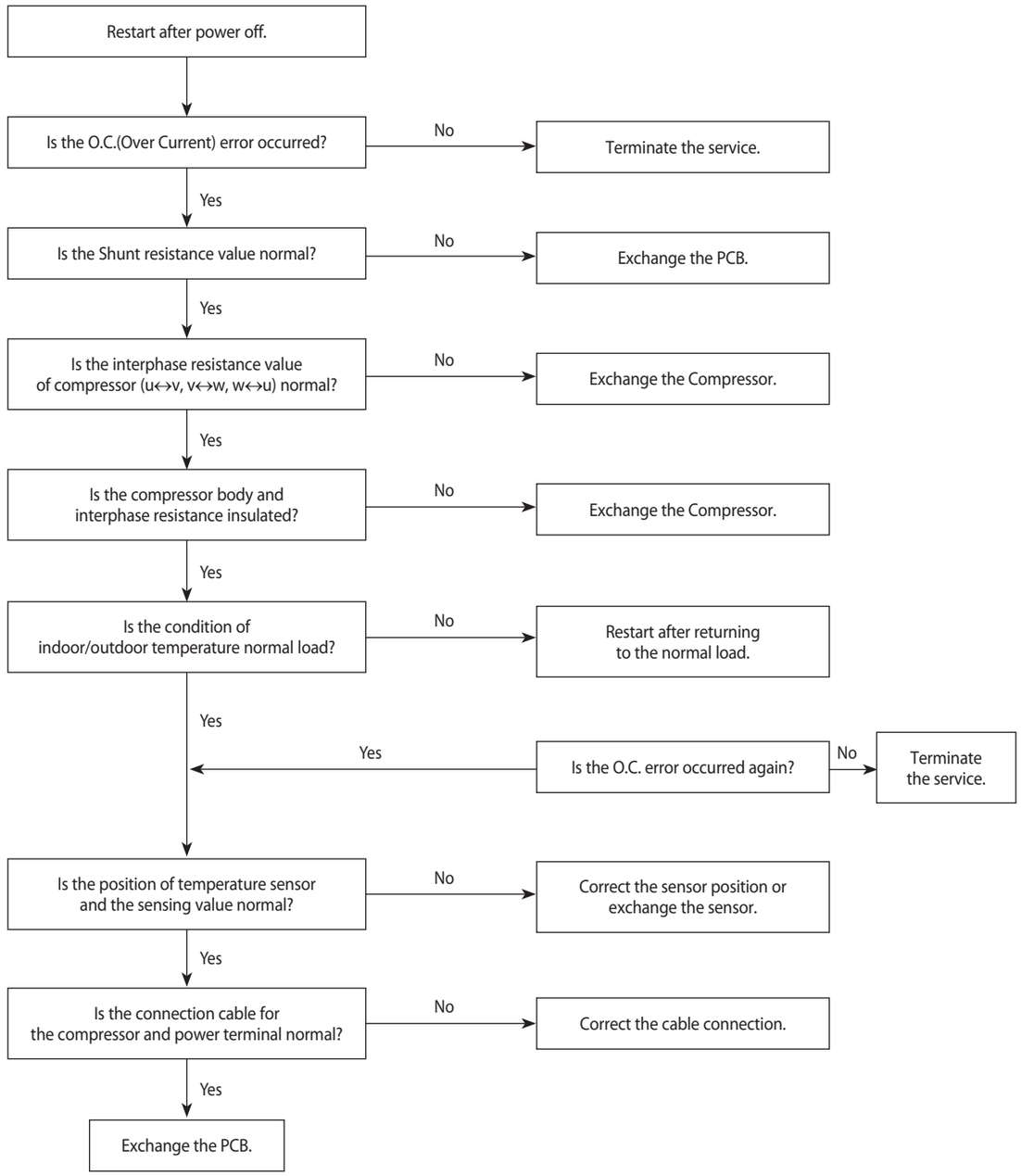
12-2-11 O.C.(Over Current) error

1. Checklist :
   1) Is the Shunt resistance value correct?
   2) Is the condition of surrounding temperature abnormal overload?
   3) Is there any problem as like the temperature sensor separation or measurement value error?
   4) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure



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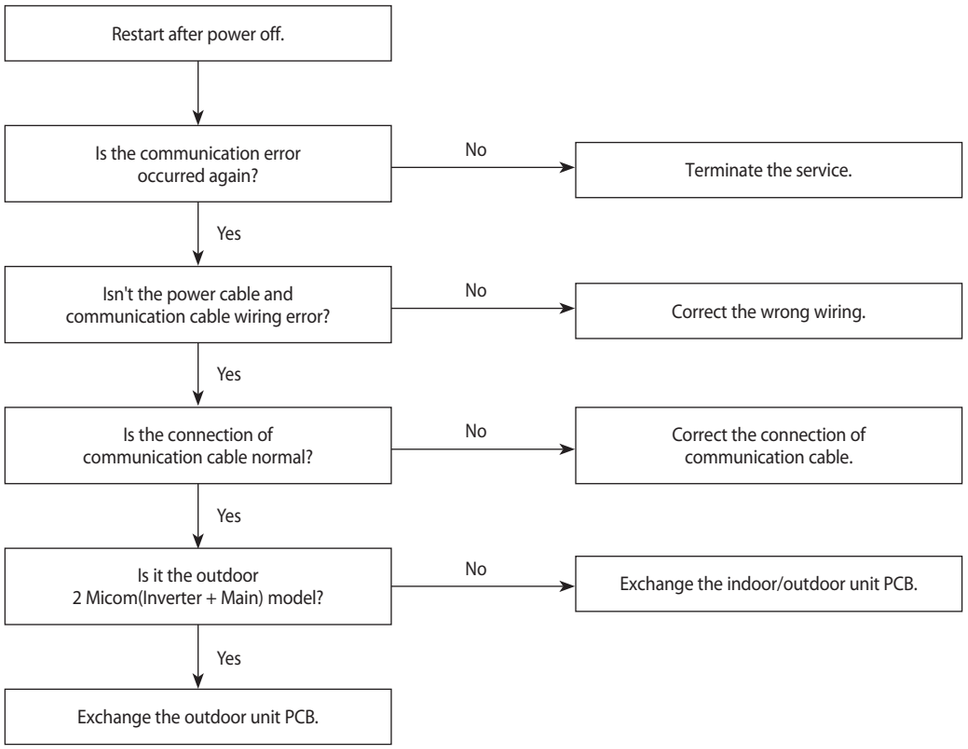
12-2-12 Communication error

1. Checklist :
   1) Is the communication cable between the indoor unit and outdoor unit connected correctly?
   2) Isn't the power cable and communication cable wiring error?

2. Troubleshooting procedure



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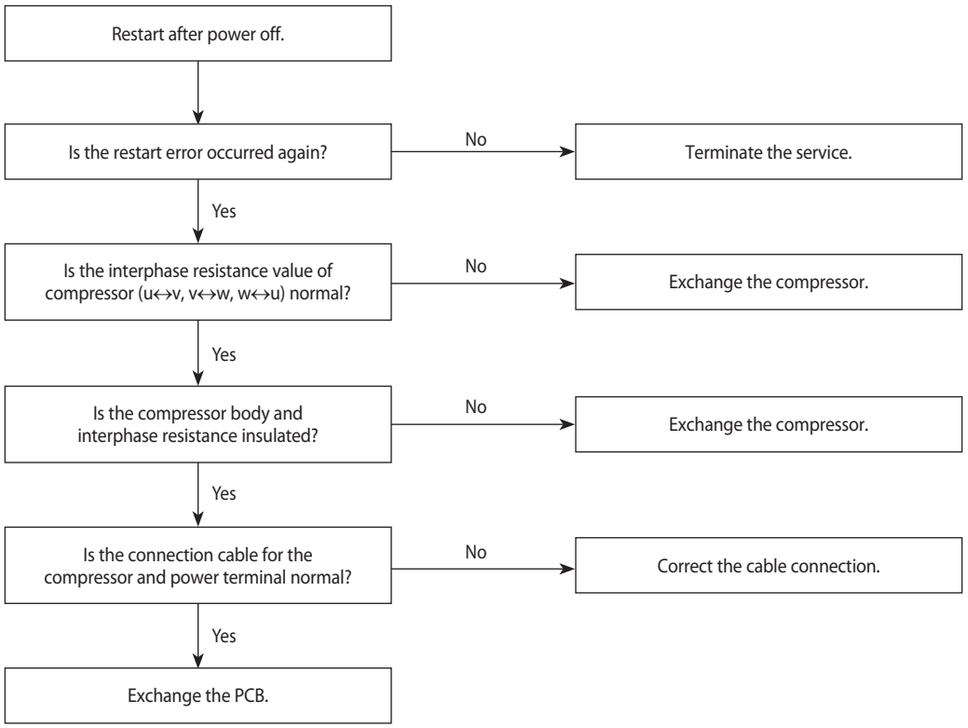
12-2-13 Compressor start error

1. Checklist :
   1) Is the connection of cable for the compressor and power?
   2) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure



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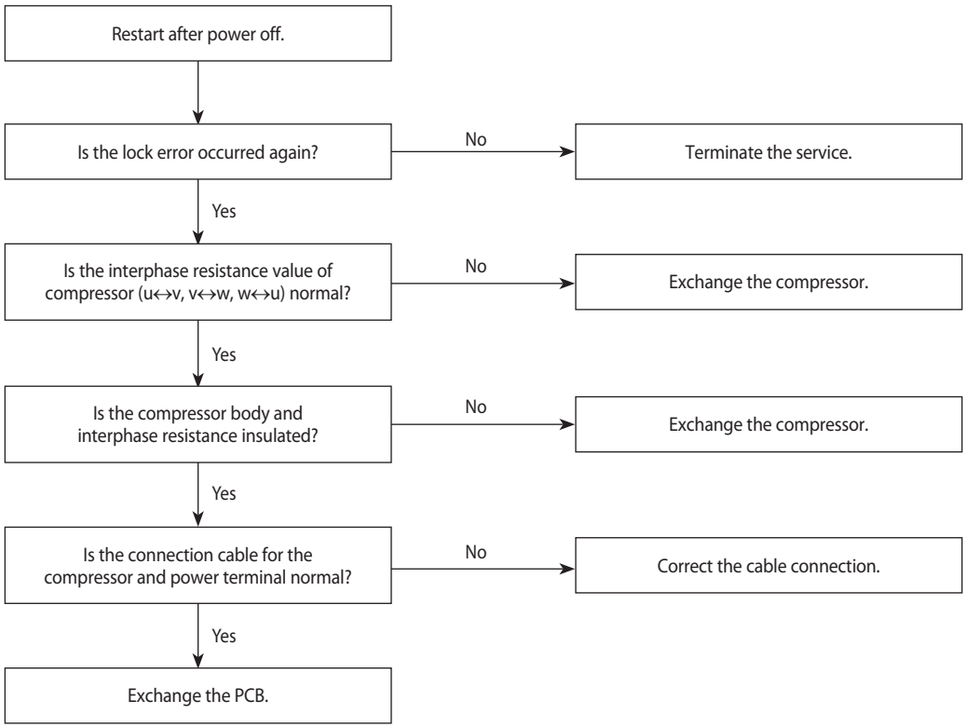
12-2-14 Compressor lock error

1. Checklist :
   1) Is the connection of cable for the compressor and power?
   2) Is the interphase resistance of compressor normal?

2. Troubleshooting procedure



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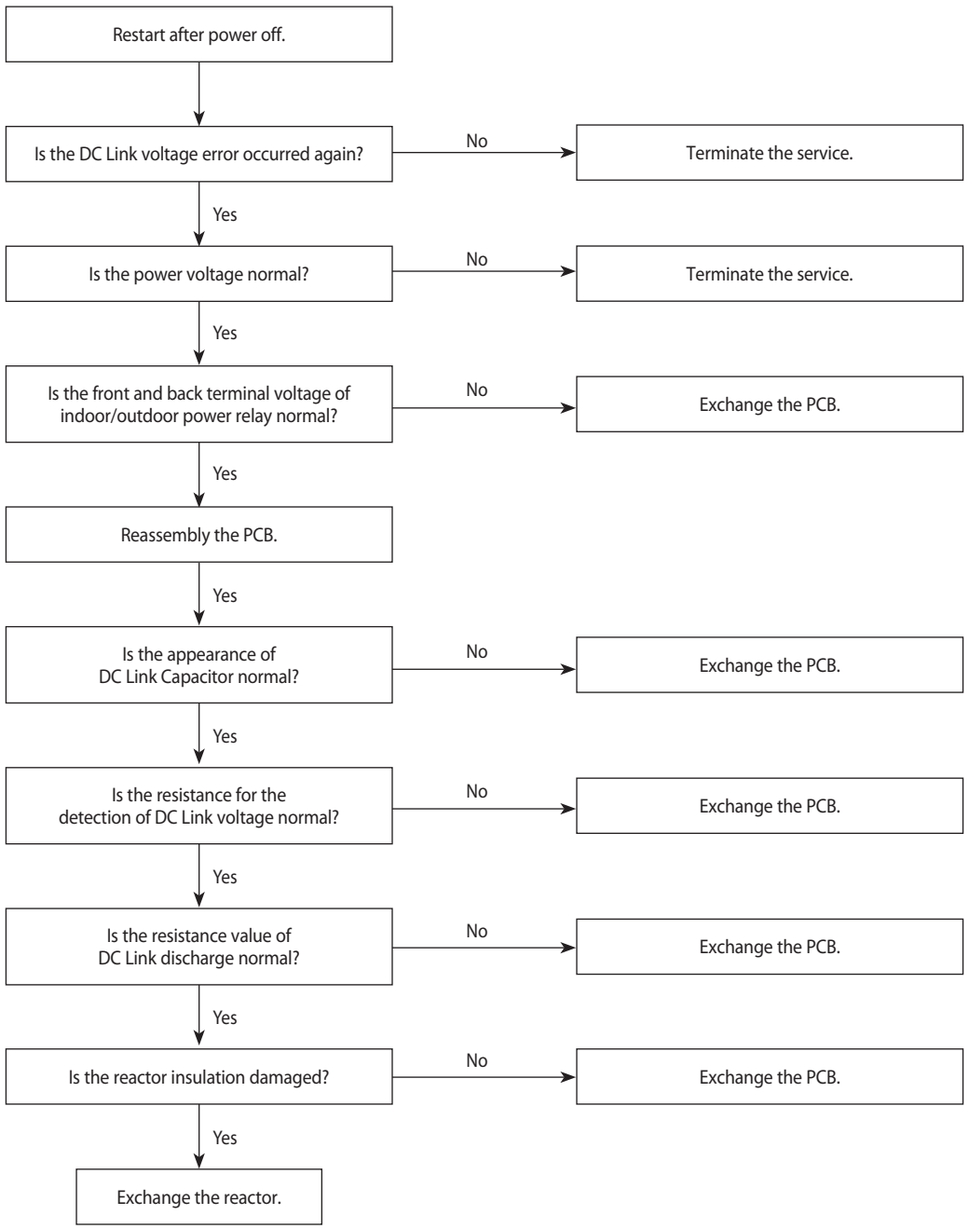
12-2-15 DC Link Over voltage/ Low voltage error

1. Checklist :
   1) Is the power voltage normal?
   2) Is the voltage of front and back terminal of indoor(outdoor) power relay normal?
   3) Is the resistance value for DC Link voltage detection NORMAL?
   4) Is the resistance value of DC Link discharge normal?
   5) Is the appearance of DC Link Capacitor normal?

2. Troubleshooting procedure



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12-2-16 The others

1. AC Line Zero Cross Signal OUT
   – Check the assembly condition of peripheral part of IC21, ZD201, ZD200 and D201 on the PCB.

2. Capacity miss match
   – Check again the indoor unit option code.

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12-3 PCB Inspection Method

12-3-1 Pre-inspection Notices

1. Check if you pulled out the AC power plug when you eliminate the PCB or front panel.
2. Don't hold the PCB side not impose excessive force on it to eliminate the PCB.
3. Don't pull the lead wire but hold the whole housing to connect or disconnect a connector to the PCB.
4. In case of outdoor PCB disassembly, check first the complete discharge of condenser (C101) after 30 seconds power off.

12-3-2 Inspection Procedure

1. Check connector connection and peeling of PCB or bronze coating pattern when you think the PCB is broken.
2. The PCB is composed of the 3 parts.
   - Indoor Main PCB Part : MICOM and surrounding circuit, relay, room fan motor driving circuit and control circuit, sensor driving circuit, power circuit of DC12V and DC5V, and buzzer driving circuit.
   - Display part : LED lamp, Switch, Remocon module
   - Outdoor Main PCB part : MICOM and surrounding circuit. IPM and PFC circuit and control circuit.
   - EMI PCB Part : Line filter and Noise Capacitor, Varistor

12-3-3 Indoor Detailed Inspection Procedure

No	Procedure	Inspection Method	Cause
1	Plug out and pull the PCB out of the electronic box. Check the PCB fuse.	1) Is the fuse disconnected?	• Over current • Indoor Fan Motor Short • AC Part Pattern Short of the MAIN PCB
2	Supply power. If the operating lamp twinkles at this time, the above 1)~3) have no relation.	Checking the power voltage.	
		1) Is the DB71 input voltage AC200V~AC240V?	• Power Cord is fault, Fuse open. Wrong Power Cable Wiring, AC Part is faulty.
		2) Is the voltage between both terminals of the C104 on the 2nd side of the transformer DC12V ±0.5V?	• Switching Trans or Power Circuit is faulty
		3) Is the voltage between both terminals of OUT and GND of IC19(KA7805) DC5V ±0.5V?	• Power Circuit is faulty, Load Short
3	Press the ON/OFF button. 1. FAN Speed [High] 2. Continuous Operation	1) Is the voltage over AC180V being imposed on terminal #3 and #5 of the fan motor connector(CN72)?	• Fan Motor of the indoor is faulty
		2) The fan motor of the indoor unit doesn't run.	• Fan Motor Connector(CN72) is faulty
		3) The power voltage between terminal #3 and #5 of the connector(CN72) is 0V.	• ASS'Y Main PCB is faulty • Connection is faulty

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12-3-4 Outdoor Detailed Inspection Procedure

No	Procedure	Inspection Method	Cause
1	Wait 30 seconds over after disconnecting the power cable Check the outdoor PCB.	1) Is C101 discharged? 2) Is the resistance of both terminals of C101 opened? 3) Is the fuse of EMI PCB normal? 4) Is the reactor wire connected?	• Over Current • Inner short of PCB • BLDC FAN Motor Error
2	Check the outdoor unit PCB.	1) Is R001 200ohm? 2) Does RY503 operate normally? (IC55 & 8: 0V, 4: 5V) 3) Is the fuse normal?	• Outdoor PCB Error • Relay(RY503) Error • IC55 Error
3	Check the LED lighting after power supply.	1) Normal: Red: Light On, Green: Flickering, Yellow: Light Off? 2) Is the voltage of C101 250V over? 3) Is the input of IC19 8V, and the output 5V? 4) Recheck after disassembling BLDC FAN Wire.	• Inner short of outdoor PCB • Wrong assembly of outdoor PCB • BLDC FAN Error
4	Check the condition of indoor & outdoor connection cable.	1) Is the green LED light on once per second? 2) Is the indoor & outdoor connection cable connected in order? 3) Is the grounding wire connected to the both of indoor & outdoor unit?	• Wrong connection of Indoor/Outdoor wiring • Wrong assembly of outdoor communication circuit
5	Check the Comp Wire.	1) Is it connected red, blue, and yellow in order in counter clockwise. 2) Are the valve and its installation condition good? 3) Is the installation condition of outdoor unit?	• Wrong assembly • Installation condition is bad.
6	Check the BLDC Fan.	1) Is CN01 1, 3 over 250V? 2) Is CN01 3, 5 within 1~5V? 3) Is the voltage of CN01 6 changed? 4) Is the resistance of BLDC Motor 1, 3 opened after power off?	• Outdoor PCB Error • BLDC Motor Error

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12-4 Main Part Inspection Method

<table>
<tr><th>Part</th><th colspan="2">Breakdown Inspection Method</th></tr>
<tr><td rowspan="3">Room Temperature Sensor</td><td colspan="2">Measure resistance with a tester</td></tr>
<tr><td>Normal</td><td>At the normal temperature 37kΩ~ 8.3kΩ[19˚F~86˚F(-7˚C~+30˚C)] *Refer to Table 12-3-4.</td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω . . . Open or Short</td></tr>
<tr><td rowspan="3">Room Fan Motor</td><td colspan="2">Measure the resistance between terminals of the connector (CN73) with a tester.</td></tr>
<tr><td>Normal</td><td>At the normal temperature [50˚F~86˚F(10˚C~30˚C)]
<table>
<tr><th>Compare terminal</th><th>Resistance</th><th>Remark</th></tr>
<tr><td>Yellow, Blue</td><td>385Ω ± 10%</td><td>Main</td></tr>
<tr><td>Yellow, Red</td><td>360Ω ± 10%</td><td>Sub</td></tr>
</table></td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω . . . Open or Short</td></tr>
<tr><td rowspan="3">Stepping Motor</td><td colspan="2">Measure the resistance between the red wire and each terminal wire with a tester.</td></tr>
<tr><td>Normal</td><td>About 300Ω at the normal temperature [68˚F~86˚F(20˚C~30˚C)]</td></tr>
<tr><td>Abnormal</td><td>∞, 0Ω . . . Open or Short</td></tr>
</table>

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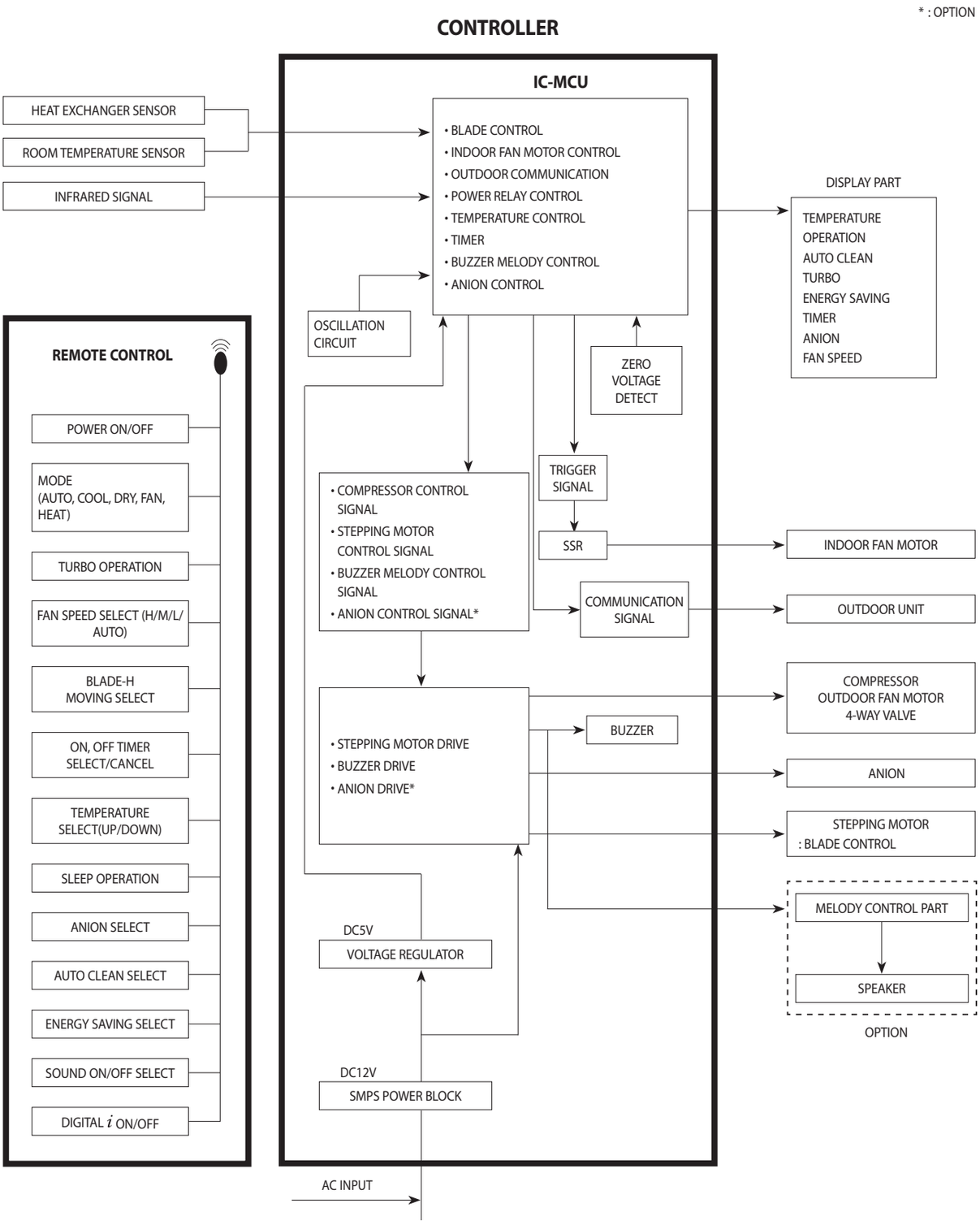
13. Block Diagram

13-1 Indoor Unit



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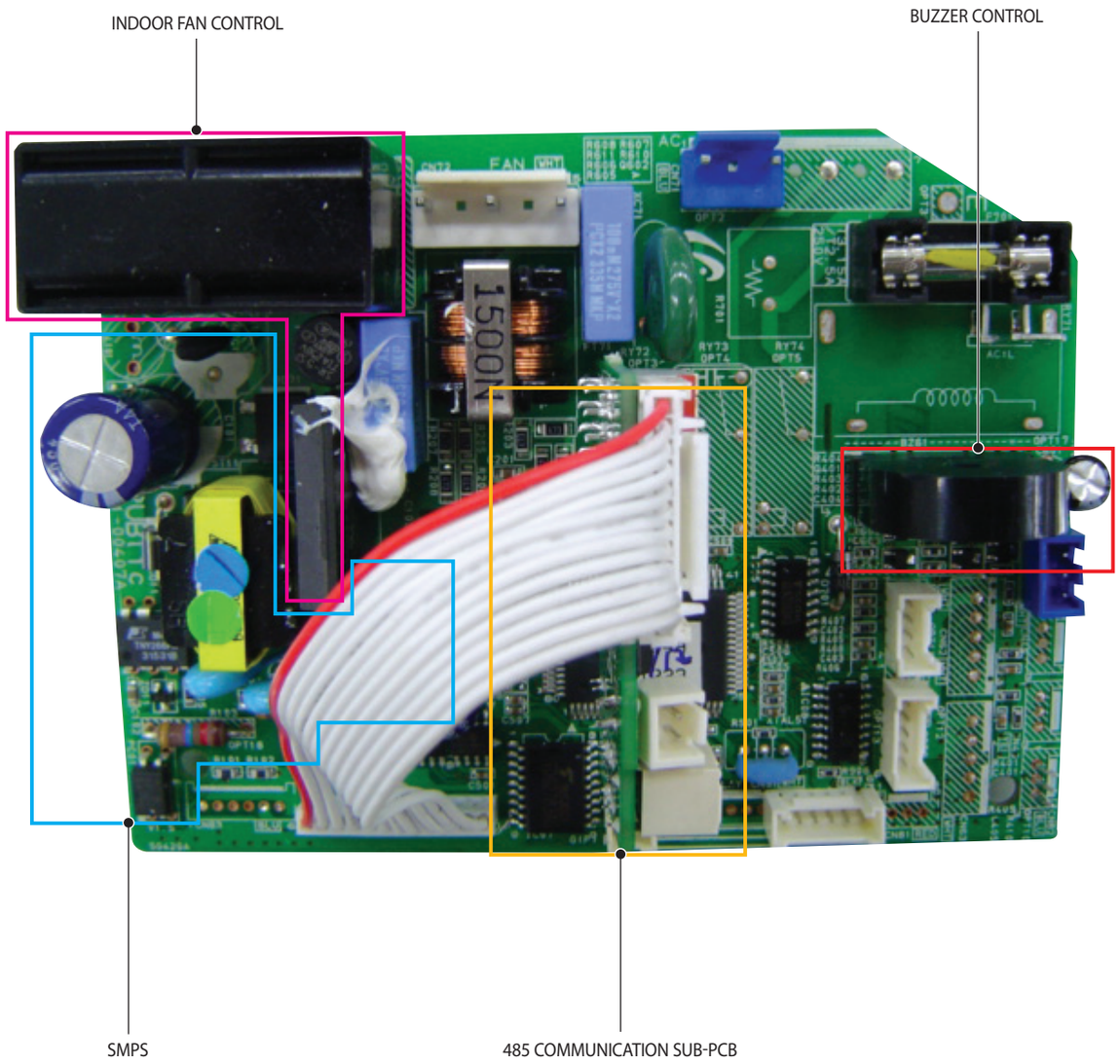

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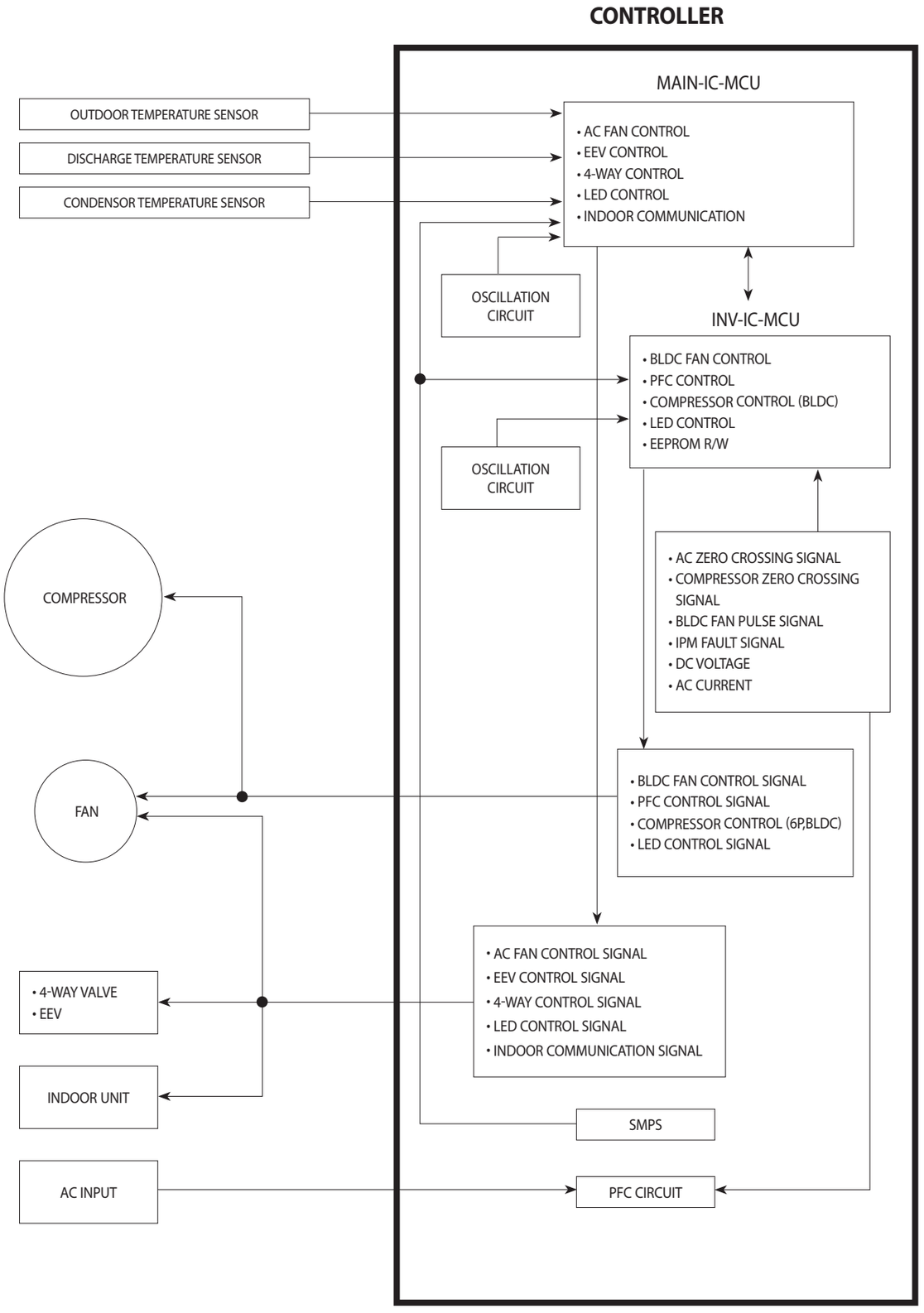
13-2 Outdoor Unit



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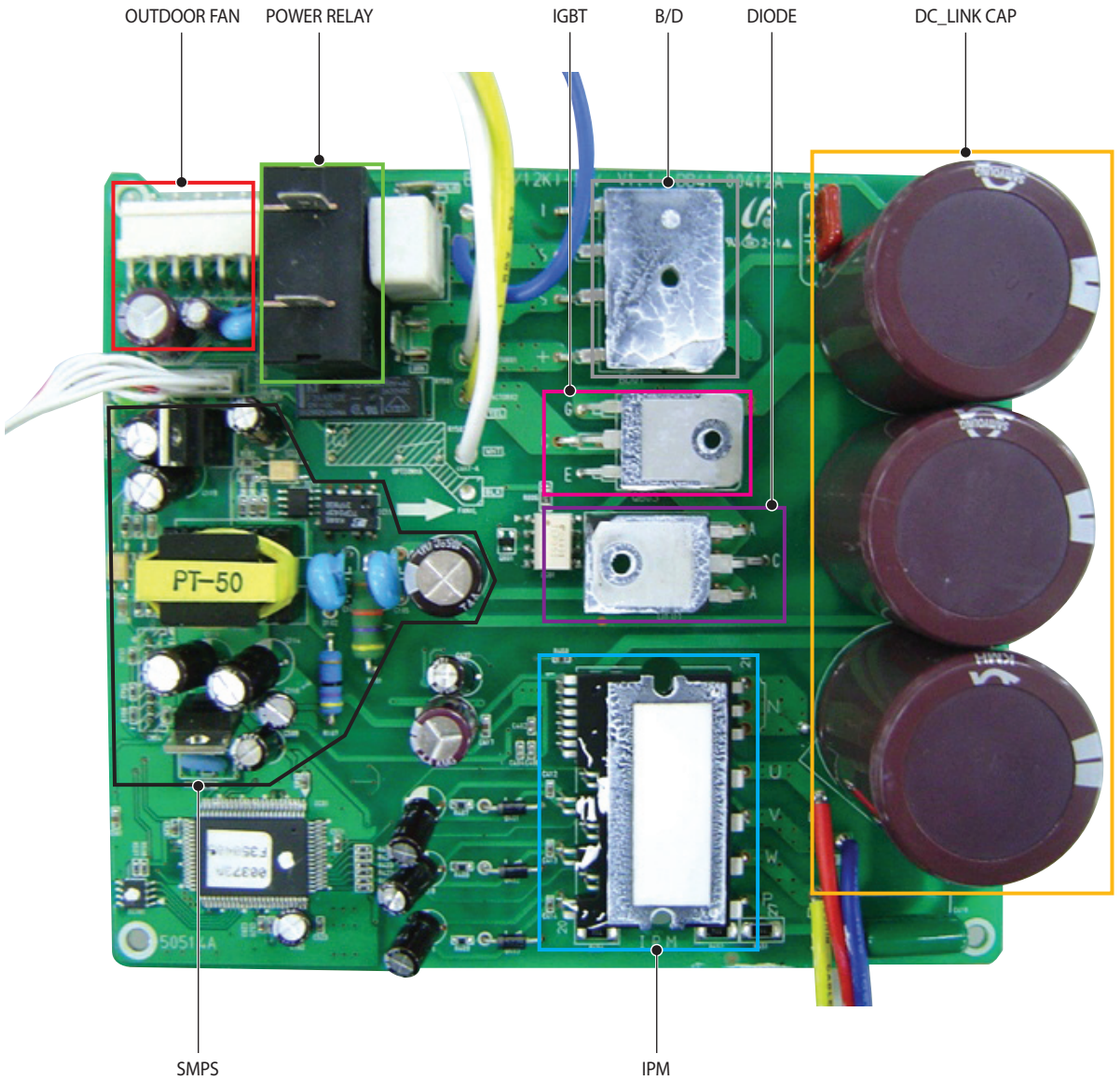
■ Inverter PCB



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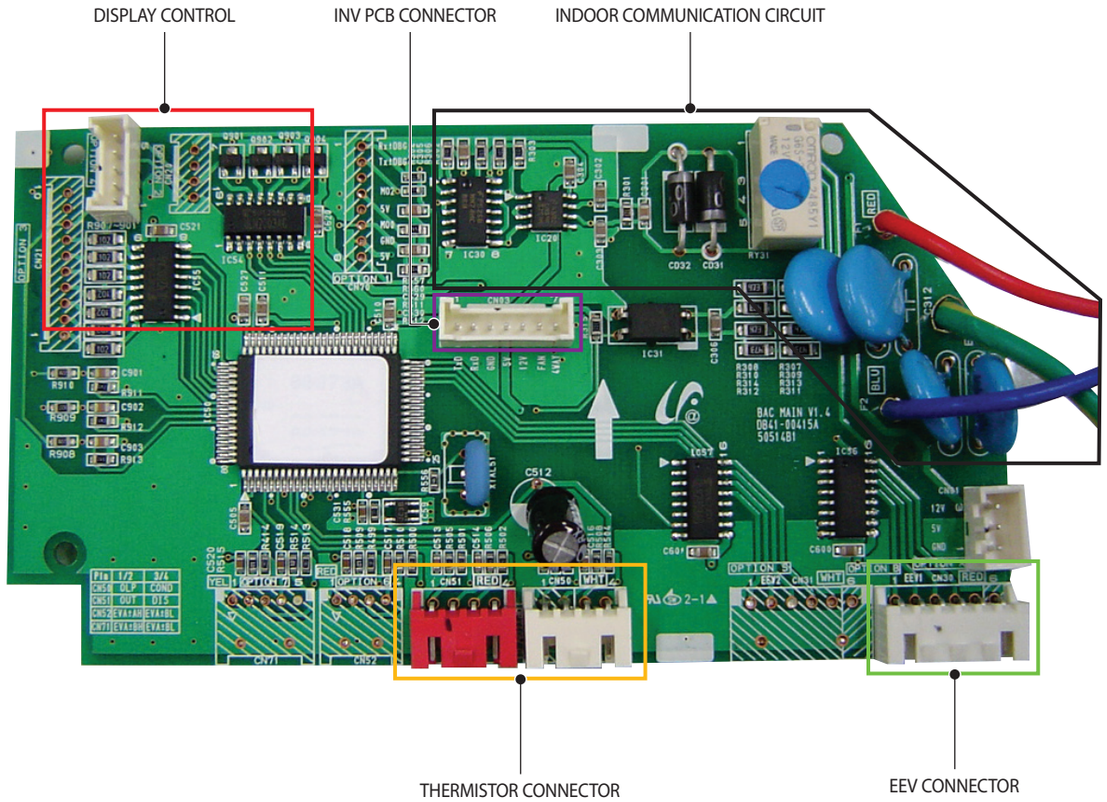
■ Main PCB



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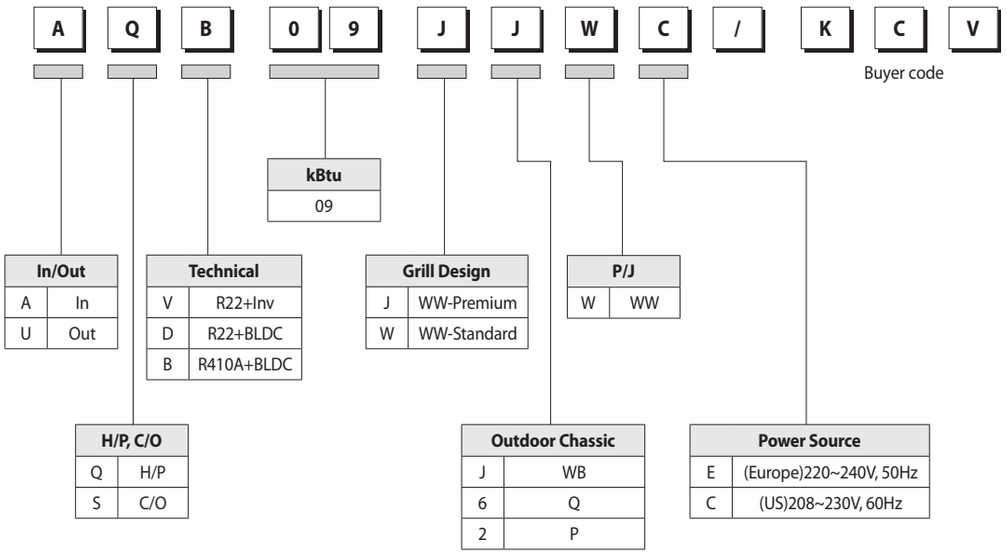
14. Reference Sheet

14-1 Index for Model Name

✳ Project model code for New Built-in Product.

Model Code



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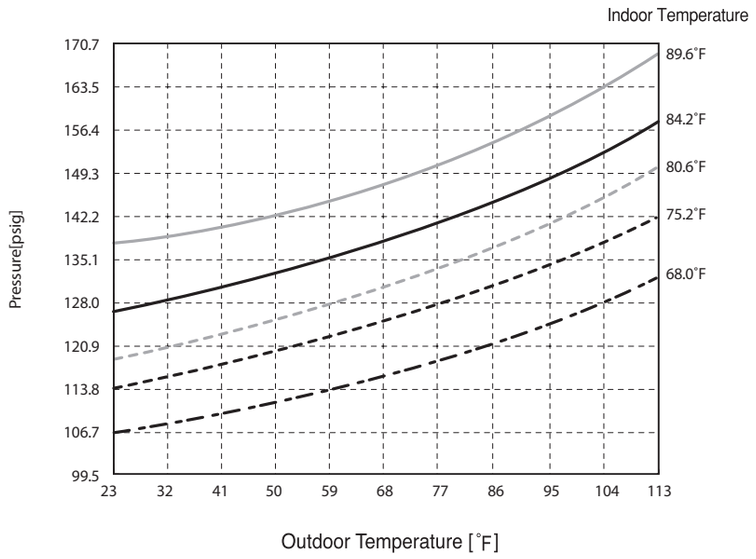
14-2 Low Refrigerant Pressure Distribution

Note : • Please measure the refrigerant pressure after the air conditioner operates on testing cooling mode during more than 15 minutes.

■ Indoor Temp. Variation : 68˚F ~ 90˚F(20˚C ~ 32˚C)

■ Outdoor Temp. Variation : 23˚F ~ 113˚F(-5˚C ~ 45˚C)



14-3 Pressure & Capacity mark

■ Power/Heat

W	cal/s	kcal/h	Btu/h	HP	kg·m/s	lb·m/s
1	0.23885	0.85985	3.4121	0.001341	0.10197	0.73756
4.1868	1	3.6	14.286	0.0056146	0.42693	3.088
1.163	0.27778	1	3.9683	0.0015596	0.11859	0.85778
0.29307	0.06999	0.252	1	$3.9302x10^{-4}$	0.029885	0.21616
745.7	178.11	641.19	2,544.4	1	76.04	550
9.8067	2.3423	8.4322	33.462	0.013151	1	7.233
1.3558	0.32383	1.1658	4.6262	0.0018182	0.13826	1

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14-4 Q & A for Non-trouble

Classification	Class	Description
Cooling	**Q**	**The cooling is weak.**
	A	When it is hot outside, its cooling capacity decreases due to the increase of the ambient temperature. When the dust filter gets blocked or warm outside air gets in, the cooling capacity will decrease. So, make sure to clean the dust filter frequently, prevent heat loss by closing the doors and insulate the cooling area by using curtains, blinds, shades or window tinting.
	Q	**The cooling is good generally. But, it gets weak when it is considerably hot.**
	A	It occurs when the outdoor unit is exposed to direct sun light and heat-up air is not ventilated well.So, set up a sunblind over the outdoor unit and keep stuff away from the unit to increase the ventilation. When the cooling capacity decreases during a heat wave, clean the heat exchanger of the outdoor unit or spray some cold water to the heat exchanger to increase the cooling capability.
	Q	**The cooling is weak. Does it need refrigerant charging?**
	A	It is not correct charging refrigerant regularly. Except that you have moved in several times or the connection pipes are broken, the refrigerant does not run low. So, when refrigerant is additionally charged, it could be costly and cause a product's failure. When the refrigerant leaks, all of it will escape in a short time resulting in cooling failure and no water coming out of the drain hose. So, if water comes out from the drain hose, it indicates the normal operation of the product and it does not need refrigerant charging.
	Q	**It fails to do cooling.**
	A	When the air conditioner is set to Ventilation or the desired temperature is set higher than the current temperature, it fails to do cooling. In this case, select Cooling or set the desired temperature lower.
Leakage	**Q**	**It floods the floor.**
	A	Place the drain hose properly. When it is not placed properly, the drain water would flow back flooding the floor. So, straighten out the drain hose for the water to be drained well.
	Q	**Water drips at the drain connection (service valve) of the outdoor unit.**
	A	When a glass bottle is taken out of the refrigerator, moisture gets condensed on its surface due to the temperature differences. The same principle applies to the air conditioner. When cold refrigerant goes through the copper tube, moisture gets condensed on the surface of the tube and the connection areas. To prevent the water condensation, the pipes are insulated. But, the connection areas of the outdoor unit are not insulated for the purpose of maintenance or repair, and water gets condensed due to the temperature differences and drips down. Generally, it evaporates right away. But, when it drips much during muggy days, put a water pan on the floor.
	Q	**It leaks even though a drain pump is used.**
	A	It occurs when the drain pump is plugged out or it is out of order. Check the power of the drain pump and the position of the drain hose, and when the pump is faulty, contact the drain pump manufacturer. Samsung Electronics do not manufacture drain pumps. So, we are not able to correct the drain pump problems.
Smells	**Q**	**Whenever the air conditioner is turned on, it irritates my eyes and gives me a headache.**
	A	There are no components in the air conditioner irritating the eyes and sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, it occurs at a interior renovated place, a pharmacy, a gasoline handling place, a tire shop, a second-hand book shop or an electronic component handling place; when its chemical or musty smells are sucked in and sent out, it can be misled that the air conditioner generates them. So, find and root out the problem or refresh the room frequently.

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Q & A for Non-trouble(cont.)

Classification	Class	Description
Smells	Q	**Whenever the air conditioner is turned on, it stinks.**
	A	There are no components in the air conditioner sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, when the drain hose is taken out to the washing room or there are sources of smells such as a diaper bin, a shoe shelf or a socks bin, bad smells generate. Also, it occurs where glass cleaners or air fresheners are used; when they are sucked in interacting with dusts and moistures inside, bad smells generate. These kinds of organic materials noxious to human bodies. So, we recommend against the use of them.
	Q	**Whenever the air conditioner is turned on, it smells sour.**
	A	When the room is papered recently, its paste smells would be sucked inside. Also, when the air conditioner is installed in the study room of young boys loving sweat-generating activities such as the basketball, excessive sweats evaporate and get sucked into the air conditioner resulting in bad smells. So, find and root out the problem or refresh the room frequently.
	Q	**Whenever the air conditioner is turned on, it smells musty.**
	A	It is due to the improper keeping of the product after its use. When keeping the product, dry up the inside with the operation of Ventilation to prevent must. When the product is kept without drying up the inside with Ventilation, mold would grow inside resulting in must. So, open the windows and switch on the Ventilation function to get rid of the saturated smell inside.
	Q	**Whenever the air conditioner is turned on, it sends out bad smells such as stale smells.**
	A	It occurs generally when there are pet animals in the house. Their smells stay at the same place. But, when the air conditioner is turned on, the air gets circulated resulting in the circulation of the smells. So, find and root out the problem or refresh the room frequently.
	Q	**It sends out bad smells.**
	A	When the air filter is filthy, it could send out bad smells. So, clean the filter and ventilate the room with the windows open while operating the Ventilation function.
Operation	Q	**It won't start.**
	A	There is a power failure or it is plugged out. Also, check if the power distribution panel is switched off.
	Q	**It goes off during operation.**
	A	When the hot air does not escape properly, it goes off during operation. It occurs when it does not ventilate properly because the outdoor unit is covered, the back of the outdoor unit is blocked by a cardboard or a plywood panel, and the front of the outdoor unit is blocked by the closed window or other obstacles. Clear the above obstacles from the outdoor unit.
	Q	**It generally works properly. But, when it's considerably hot, it goes off during operation.**
	A	It occurs when the outdoor unit is exposed to direct sunlight and the hot air does not escape properly. Set up a sun blind over the outdoor unit and clear the neighboring obstacles from the outdoor unit to provide good ventilation. When it goes off frequently during a heat wave, it would prevent the turn-off and increase the cooling capacity cleaning the outdoor unit or spraying some water to the heat exchanger.
	Q	**The remote controller won't operate.**
	A	When the batteries run out or the transmitter or receiver of the remote controller is blocked by obstacles, change the batteries or keep the obstacles away from the controlling area. Also, the remote controller may not work under intensive light from a 3-wavelength lamp or a neon sign due to the EMI. In this case, take the remote controller closer to the receiver.

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Classification	Class	Description
Installation	Q	**Who installs the air conditioner? (Relocation/Re-installation)**
	A	When relocating or re-installing the air conditioner, make sure to contact Samsung Electronics Service Center or Authorized Service Agent and have them to do the job. (If not, it could cause personal injury or product damage.) The cost for the relocation/re-installation of the air conditioner is subject to the customer's expense. There is a cost table. But, our service engineer needs to visit to total up the cost correctly. When you move in, make sure to contact Samsung Electronics Service Center or Authorized Service Agent in advance to streamline the process.
	Q	**Is it possible to install the outdoor unit outside?**
	A	It is possible to install it at a designated place in the apartment or on the rooftop nearby. But, it's illegal hanging an angle iron case with the outdoor unit in it outside the apartment. Also, it is illegal obstructing passers-by with the outdoor unit installed outside.
	Q	**What can be done to install the outdoor unit facing the road because it is a commercial building?**
	A	The following is an excerpt from Building Code going into effect from JUNE 1st 2005. "The exhaust pipe of a cooling or ventilation facility installed in a building adjacent to the streets of commercial or residential areas shall be installed higher than 2 m to prevent the exhaust air from blowing directly to passers-by and the current facilities shall be corrected by MAY 31st 2005." So, please install it higher than 2 m or not to blow the hot exhausting air directly to passers-by.
	Q	**What about installing a windscreen during installation not to blow hot air directly to passers-by?**
	A	When the hot air from the front of the outdoor unit is blocked, the product's performance will be affected and it will fail to operate properly. So, keep it at least 300mm away from its surrounding walls and give it good ventilation.

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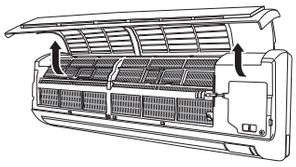
14-5 Cleaning/Filter Change

14-5-1 Cleaning your Air Condition

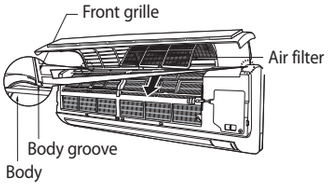
For the best use of your air conditioner, you must clean it every 2 weeks to remove the dust accumulated on the air filter.

• Before cleaning your air conditioner, check if you have turned off the circuit breaker.

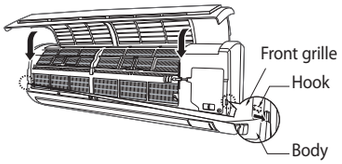
1. Open the upper front grille by pulling the lower right and left tabs of the grille.



2. Pull air filters out of each tab of the grille.
3. Remove all dust on the air filters with a vacuum cleaner or brush.
4. When you finish, insert air filters by fixing them to each tab of the grille.
5. To close the front grille, fix it to hooks and push down the lower right and left tabs of the grille.



6. Clean the front grille with a damp cloth and mild detergent (do NOT use benzene, solvents or other chemicals).



Note : • If you have not used the air conditioner for a long time, select the Fan mode for 3 to 4 hours to dry the inside of the air conditioner.

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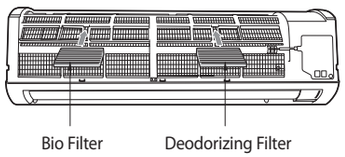
14-5-2 Cleaning Deodorizing and Bio Filter (Option)

There are Anti-Allergy and Deodorizing filters inside your air conditioner.
They remove odours and dust in your room. You should clean the filters every 3 months.

1. Open the upper front grille by pulling the lower right and left tabs of the grille.
2. Pull out the deodorizing and Bio filter.
3. Wash the filters with clean water, then dry them in the shade.
4. Insert the filters in their place.

   Note : • You can change the position of filters with each other.

5. Close the front grille.



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14-6 Installation

14-6-1 Before Installation

Keep the air conditioner outlet and inlet free from its surroundings.
In case of installation, keep the symmetry and fix it to prevent vibration.
The pipe length shall meet the standard as far as possible.

14-6-2 Installation Procedure

■ Location

Install the product in an area to guarantee the best cooling effect, convenience of piping and electric work, and inexistence of vibration or wind.

■ Wall Drilling

Drill the wall downward in a diameter of 60 to 65mm.

■ Fixing Indoor Unit & Outdoor Unit

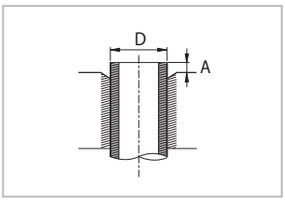
Fix the air conditioner indoor unit securely to the wall. Secure the outdoor unit in a suitable position.

■ Pipe Spooling & Connecting

You shall cut the pipe with a pipe cutter and grind all the burrs of the cut surface.
Pipe expansion may continue until the pipe surface becomes uneven or torn apart.
Be sure to use a torque wrench to tighten pipes or flare nuts.

<Torque & Depth>

Outer Diameter(D)	Torque(ft·lb/kgf·cm)	Depth(A)
1/4 inch(6.35mm)	10.1~12.3/140~170	1/16 inch(1.3mm)
3/8 inch(9.52mm)	18.1~20.3/140~170	1/16 inch(1.8mm)
1/2 inch(12.70mm)	27.5~30.4/380~420	1/16 inch(2.0mm)
5/8 inch(15.88mm)	31.8~34.7/440~480	1/8 inch(2.2mm)



■ Leak Test

Put an inert gas like nitrogen in the outdoor unit pipe and put soap bubbles or other test liquids on the pipe surface for the leak test.

■ Drain Hose Connecting

Install the drain hose downward to drain water naturally. Be sure to pour water into the hose to check if it drains well.

■ Electric & Earth Work

Electric and earth work shall meet the "Electric Facility Technology Standard" and the "Internal Wire Regulation" of the Electric Business Laws.

■ Inspection & Trial Run

Upon completion of the tests, you shall make a trial run while you explain the main functions of the air conditioner to finish the installation.

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14-7 Installation Diagram of Indoor Unit and Outdoor Unit

14-7-1 Air-Purge Procedure

1) Connect each assembly pipe to the appropriate valve on the outdoor unit and tighten the flare nut.

2) Connect the charging hose of low pressure side of manifold gauge to the packed valve having a service port as shown at the figure.

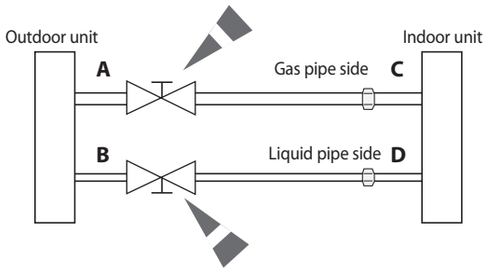
3) Open the valve of the low pressure side of manifold gauge counter-clockwise.

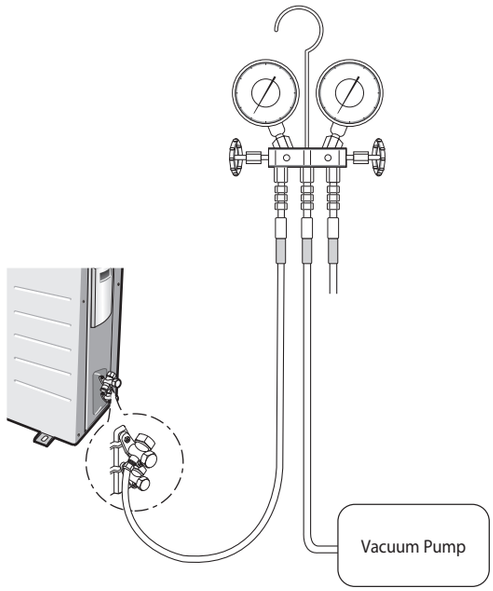
4) Purge the air from the system using vacuum pump for about 10 minutes.
   - Make sure that pressure gauge show -0.1MPa(-76cmHg) after about 10 minutes.
   - This procedure is very important in order to avoid gas leak.
   - Turn off the vacuum pump.
   - Close the valve of the low pressure side of manifold gauge clockwise.
   - Remove the hose of the low pressure side of manifold gauge.

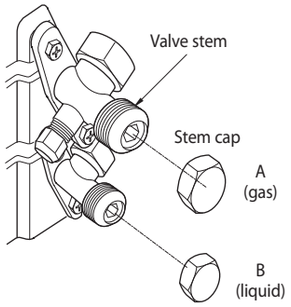
5) Set valve cork of both liquid side and gas side of packed valve to the open position.

6) Mount the valve stem nuts and the service port cap to the valve, and tighten them at the torque of 183kgf·cm with a torque wrench.

7) Check for gas leakage.
   - At this time, especially check for gas leakage from the 3-Way valve's stem nuts, and from the service port cap.







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14-7-2 “Pump down” Procedure

Pump down will be carried out when an evaporator is replaced or when the unit is relocated in another area.

1) Remove the caps from the 3-Way valve and the 3-Way valve.

2) Turn the 3-Way valve clockwise to close and connect a pressure gauge (low pressure side) to the service valve, and open the 3-Way valve again.

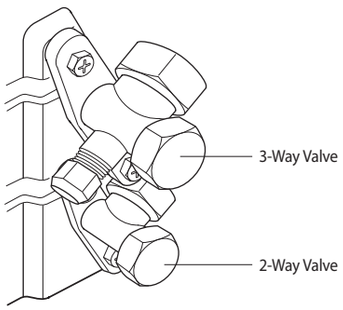
3) Set the unit to cool operation mode. (Check if the compressor is operating.)

4) Turn the 3-Way valve clockwise to close.

5) When the pressure gauge indicates "0" turn the 3-Way valve clockwise to close.

6) Stop operation of the air conditioner.

7) Close the cap of each valve.



Remarks

Relocation of the air conditioner

- Refer to this procedure when the unit is relocated.
- Carry out the pump down procedure (refer to the details of 'pump down').
- Remove the power cord.
- Disconnect the assembly cable from the indoor and outdoor units.
- Remove the flare nut connecting the indoor unit and the pipe.
- At this time, cover the pipe of the indoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
- Disconnect the pipe connected to the outdoor unit.
  At this time, cover the valve of the outdoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
- Make sure you do not bend the connection pipes in the middle and store together with the cables.
- Move the indoor and outdoor units to a new location.
- Remove the mounting plate for the indoor unit and move it to a new location.

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